British Journal of Educational Psychology (2006), 76, 91–118
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Arab and Jewish elementary school students' perceptions of fear and school violence: Understanding the influence of school context

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This inquiry explores variables that predict elementary school stsudents' fear of attending school due to school violence and their overall judgments of school violence as a problem. Using a nationally representative sample (Israel) of 5,472 elementary-school-aged children, this study tested the hypotheses that: (a) young students' personal fear of attending school due to violence, and (b) students' assessment of a school violence problem, are best understood as separate conceptual constructs. Structural equation modelling was used to test the proposed theoretical model for the sample as a whole and separately for across gender and for Arab and Jewish students. Student *fear* of attending school due to violence was related directly to experiences of personal victimization on school grounds by students and teachers. Children's judgments of their schools' overall *violence problem* were influenced directly by the school climate, risky peer-group behaviours, and personal victimization. The findings provide evidence that the proposed theoretical model applies across gender groups and for both Arab and Jewish students. Implications for policy, theory, and future research are highlighted.

Evidence from epidemiological inquiries suggest that victimization in schools is a widespread problem that affects a sizable proportion of students in many countries across the globe (Burnett, 1998; Errante, 1997; Hyman & Snook, 2000; Kaufman *et al.*, 2000; Olweus, Limber, & Mihalic, 1999; Pellegrini & Bartini, 2000; Price & Everett, 1997; Rigby, 1996; Smith, 2003; Smith *et al.*, 1999; Smith & Sharp, 1994; Zeira, Benbenishty, & Astor, 2003). An even larger proportion of students are not personally victimized but report generalized feelings of being unsafe, fearful, or that their school has a violence problem. For some students, the fear of being victimized is so great that they choose not to attend school in order to avoid victimization (Alvarez & Bachman, 1997; Arnette & Walsleben, 1998; Astor, Benbenishty, Zeira, & Vinokur, 2002; Benbenishty, Astor, Zeira, & Vinokur, 2002; Benbenishty & Astor, 2003; Everett & Price, 1995;

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DOI:10.1348/000709905X37307

Furlong, Bates, Chung, & Morrison, 1996; Kaufman *et al.*, 1999; Nansel *et al.*, 2001; Smith, 2003; Zeira, Astor, & Benbenishty, 2002).

However, from a theoretical perspective, very few studies have examined how the social and organizational environments of schools influence school victimization outcomes. In recent years, several school violence researchers have argued for more detailed studies that explore the context of the school, including the role of school social/organizational dynamics on school victimization (Astor & Meyer, 2001; Astor, Meyer, & Behre, 1999; Baker, 1998; Behre, Astor, & Meyer, 2001; Hawkins, Farrington, & Catalano, 1998; Hyman & Perone, 1998a; Hyman & Snook, 2000; Morrison & Skiba, 2001; Nansel *et al.*, 2001; Nogeura, 1995; Olweus *et al.*, 1999). Furlong and Morrison stated it succinctly when they put out a call for more research on the 'school' in 'school violence' (2000, p. 71). The call for more research on the influence of social contexts on behaviour exists in several other behavioural science research areas. Duncan and Raudenbush (1999) stated:

> This research [on context] is relevant to social policy aimed at improving settings such as neighborhoods and schools; for if certain settings are found to be especially helpful in promoting desired child and youth outcomes, policy might aim to recreate those settings on a broader scale (1999, p. 29).

However, compared with research on the influence of other social contexts such as the family or neighbourhood, research on influences of the school social context as it intersects with victimization remains an under-explored area (Astor & Meyer, 2001; Astor, Meyer, & Pitner, 2001; Griffith, 1995; Lee & Croninger, 1995; Mayer & Leone, 1999; Meyer, Astor, & Behre, 2002; Mulvey & Cauffman, 2001; Naylor & Cowie, 1999). Consequently, this study begins with the assumption that in order to understand student victimization and student perceptions of school safety, the socio-organizational dynamics of the school setting must be explored in great detail. The exploration of hypotheses about the impact of school organization on student victimization is critical for building a viable theory of school violence.

The primary aim of this study is to explore how school context variables (e.g. risky peer behaviours, school policies, personal victimization patterns) are associated with two important school violence outcomes: (a) non-attendance of school due to fear of school violence, and (b) students' perceptions of their school's overall violence problem. A second, but related, aim of this study is to test the possibility that students' avoidance of school due to fear of school violence, and students' assessment of violence as a problem in their school setting are better understood as *separate conceptual constructs* that are influenced differently by social dynamics, organizational factors, and personal victimization patterns occurring within schools. We put forth the hypothesis that students' avoidance of school due to fear of violence may be emanating primarily from an emotional and personal domain due to direct personal experiences with victimization. By contrast, a student's judgment of a school's overall violence problem most probably takes into account multiple school context variables and therefore involve an array cognitive-informational process.

Recent studies have provided evidence supporting these hypotheses for secondary school students (Astor *et al.*, 2002; Benbenishty *et al.*, 2002). However, primary schools have different missions, goals, and organizational structures than secondary schools. Furthermore, a primary school child's emerging cognitive and emotional development is different than secondary students. Thus, it is not entirely clear if findings from secondary schools can be applied to students in elementary school settings.

Based on assumptions of some theories in the child development, aggression, and school reform literatures, the variables influencing social-emotional perceptions and cognitive judgments are likely to be different for younger elementary school students when compared with secondary students (Alvarez & Bachman, 1997; Arnett & Walsleben, 1998; Burnett, 1998; Devine, 1996; Errante, 1997; Furlong & Morrison, 2000; Garbarino, Dubrow, Kostelny, & Pardo, 1992; Griffith, 1995; Hyman & Snook, 2000; Lee & Croninger, 1995; Lockwood, 1997; Mayer & Leone, 1999; Nogera, 1995; Price & Everett, 1997). Even so, conflicting assumptions from the bullying literature, and studies on children's understanding of violence/victimization would assert that young children who have had frequent experiences with school violence develop strong and coherent judgments surrounding violence issues from a very young age (Artz, 1998; Astor, 1994, 1998; Astor, Benbenishty, Haj-Yahia *et al.*, 2002; Astor, Benbenishty, Pitner, & Meyer, 2004; Astor *et al.*, 2001; Astor & Meyer, 2001; Nansel *et al.*, 2001; Olweus, 1993; Smith, 2003; Turiel, 1987, 1998; Turiel, Hildebrant, & Wainryb, 1991; Wainryb & Turiel, 1993). Findings from these literatures would lead to the assumption that the overall patterns surrounding school violence issues would be similar for elementary and secondary students since the nature of the variables experienced are frequent and established early on (e.g. peer group interactions, quality of teachers responses to violent acts, school policies, and types of victimization experienced). In sum, there is considerable theoretical variation in assumptions about elementary schools to warrant further study.

To better understand how we arrived at the hypotheses and theoretical model presented in this article, we review what is known about (a) students' non-attendance due to fear, and (b) students' overall assessments of their schools violence problem. We also review research on school context variables that have been shown to influence these two outcomes. Based on the review of the research literature, we present a model that predicts which school contextual variables influence students' fear of going to school compared with their judgments of their school as having a violence problem.

We test our theoretical model using data from a large representative sample of Jewish-Israeli and Arab-Israeli elementary school students. It is the first nationally representative sample of Arab students on issues of school violence for any country, to date. We will explore how ethnicity and culture influence our empirical questions.[1]

What is known about student fear and judgments concerning the safety of the school

Non-attendance due to fear

Studies suggest that non-attendance of school due to fear of school violence is common in many countries (Kaufman *et al.*, 1999; Smith, 2003; Smith *et al.*, 1999). Knowing more about this variable is important because students who report not attending school due to fear of school violence may stop attending school altogether. In Israel, 15.7% of elementary school student's report missing school due to fear of school violence at least once during the month prior to taking the survey (Zeira *et al.*, 2003). Rates of non-attendance due to fear are similar across grade levels (15.5%, 16%, and 15.6% for fourth, fifth, and sixth grades, respectively; Zeira *et al.*, 2003).

There are relatively large differences between Jewish and Arab students' non-attendance due to fear of victimization on school grounds. Approximately 21% of Arab

[1] *This study on elementary schools is one of three related inquires that explore the same empirical questions in different school contexts. The other studies were conducted in junior high (Benbenishty et al., 2002) and high schools (Astor et al., 2002) in Israel.*

elementary school students (compared with 14% of Jewish students) report not attending school due to fears of school violence perpetrated by their peers or school staff (Zeira *et al.*, 2003). These kinds of differential group patterns are comparable to findings from other countries with multiple ethnic groups (Kaufman *et al.*, 2000; Smith, 2003). For example, among US secondary school students there are significant ethnic differences in fear. Compared with White students, more than twice as many African–American and Hispanic students were fearful of attacks at school (see Astor, Benbenishty, & Marachi, 2004; Meyer & Astor, 2002, for reviews of student fear in the USA). Overall, based on the literature cited, we believe that regardless of a student's cultural background, elementary children's personal experiences with victimization will be the overriding factor in determining if they miss school due to fear. Two separate studies, (Astor *et al.*, 2002; Benbenishty *et al.*, 2002) found that for both Jewish and Arab students in high school and junior high school, fear of attending school was directly associated with their personal victimization at school. All other school variables were mediated through their personal experiences rather than their cultural lenses. We believe that this same dynamic occurs with both Jewish and Arab elementary-aged children. However, to date, it has not been examined in elementary schools. Evidence from bully/victim studies conducted across the globe suggests that victimization rates in elementary schools are far higher than secondary schools (see Astor *et al.*, 1994 for a review of this literature; Olweus, 1993; Smith, 2003). This would suggest that victimization in elementary schools is more common than other settings and the social patterns under-girding non-attendance due to fear are established early on in elementary schools. In stark contrast to findings from elementary schools, the school reform literatures have a more 'caring', 'responsive', and 'holistic' view of elementary schools when compared with secondary schools. This literature would suggest that the teachers responses in elementary schools could make students feel less fearful. However, there is not much empirical data supporting these strongly held beliefs on the 'safe haven' view of elementary schools.

In Israel, male and female elementary school students have very similar levels of non-attendance due to fear of school violence (16.2% of males vs. 15.5% of females; Zeira *et al.*, 2003). Even so, decades of research suggest that males and females experience victimization differently (American Association of University Women, 2001, 1993; Artz, 1998; Astor & Meyer, 1999; Lee, Croninger, & Linn, 1996; Olweus, 1999a; Owens, Slee, & Shute, 2000; Stein, 1995, 1999; Zeira *et al.*, 2002). Research on gender and violence suggests that school variables such as risky peer groups, teacher/child relationships, and personal victimization patterns influence male and female students in different ways. Consequently, while the base rates for non-attendance due to fear are similar for male and female Israeli students, it is possible that social patterns contributing to fear of victimization differ by gender. Despite this very large literature that predicts gender differences, Astor *et al.* (2002) and Benbenishty *et al.* (2002) found that gender played a very small role in these overall patterns for Israeli students junior high and high schools. As is the case with culture, both male and female students non-attendance due to fear was primarily influenced by their own victimization at school. All other school social dynamics were mediated through experiences of victimization at school. At first glance, it may appear that these studies are in conflict with a large body of aggression research showing differences in aggression rates between boys and girls. However, it is very possible to have very different frequency rates for boys and girls and at the same time have similar patterns of variables influencing those base rates. For example, although more boys experience victimization at school (higher frequency rates), victimization as a conceptual variable may influence girls' non-attendance due to fear in similar ways. Because we believe prior

victimization leads to fear in both girls and boys, we suspect that children in elementary schools will exhibit similar patterns as those in junior high and high schools. We predict that the victimization at school triggers such strong emotional fear responses that other school social factors are interpreted or mediated through experiences.

Perceptions of the extent of the problem

The second kind of assessment explored in this study concerns elementary school students' perceptions of their schools' violence problem. A handful of studies suggest that judging the safety of a school is a different type of assessment than the outcome of non-attendance due to fear. The safety of a school is a broad-based assessment of the whole school, the peer group, the response of the school staff, and consistency of rules (i.e. Astor *et al.,* 2002; Astor, Meyer, & Behre, 1999; Astor *et al.*, 2001; Benbenishty *et al.*, 2002; Meyer *et al.*, 2002). These studies suggest that overall, both male and female secondary school students from different ethnic groups consider an array of school organizational variables, experiences of victimization, and the observed behaviours of their peers when judging the overall safety of the school. Those studies imply that the most influential variables that determine secondary school student's views of the safety of their schools are risky behaviours observed by their peers on school grounds. How elementary school students arrive at judgments of their school's overall safety has not yet been explored. Would elementary school students have the cognitive capacity to balance diverse sources of social context information (from the peer group, teachers responses, school's policies, and their own victimization) when judging their school's violence problem? Some theories of cognitive development would suggest that elementary-aged children would have a decreased capacity to balance many contextual variables. It is possible that patterns surrounding children's judgment of their school are more closely associated with their experiences of personal victimization. However, based on the extensive literature on peer group influences and school violence studies, (Astor, 1995; Griffith, 1995; Naylor & Cowie, 1999; Olweus, 1999a, 1999b; Pellegrini & Bartini, 2000) we believe that elementary-aged children form strong views of their school, their teachers, the policies surrounding violence and their own victimization from a young age. Qualitative studies also provide evidence suggesting that elementary school students views about their schools are quite sophisticated and complex (Astor *et al.*, 2001; Meyer & Astor, 2002; Slee, 1995; Stein, 1995; Sutton, 1995; Turiel, 1998). Hence, contrary to assumptions surrounding diminished cognitive ability to balance many contextual issues, we believe the overall pattern for the elementary school's students will be as complex and possibly similar to that found for middle- and high school-aged students.

How elementary-aged children judge the safety of an entire school setting is theoretically important for educational research. Most social scientists would consider school settings as an important socio-developmental context. There is also ample empirical data indicating that elementary students often form complex judgments about the overall safety of their school setting (see Astor & Meyer, 2001, for a review). Yet, very little is known about how specific contextual variables in elementary schools contribute to judgments of school safety. This is partially due to the lack of large-scale studies that explore elementary school student's assessments of school safety (for a handful of exceptions see Furlong, Casas, Corral, Chung, & Bates, 1997; Smith *et al.*, 1999; Zeira *et al.*, 2003). Knowing which school-related factors influence assessments of the entire school would help researchers interpret elementary school student's responses to these kinds of 'whole school' safety questions.

Knowing how younger, elementary-aged students' assess their school 'as a whole' would be important for several pragmatic reasons. First, students who believe their school has a school violence problem may develop other negative beliefs surrounding the school that impede social and academic functioning. Second, this kind of 'entire school' judgment question has been asked repeatedly in surveys conducted in many countries without knowing if younger students' judgments can be interpreted in similar ways to that of secondary school students (e.g. Gleit, 1999; Harel, Kenny, & Rahav, 1997; Kaufman *et al.*, 1999; Rose & Gallup, 2000; Smith, 2003; Smith *et al.*, 1999; Zeira *et al.*, 2003). Policy makers often use 'whole school' questions such as this one as barometers of safety in schools (e.g. how safe is your school?). Younger students may focus on different school variables than secondary school students when judging their schools' overall safety. This may be due to cognitive-developmental differences or to the different social structures of elementary and secondary schools.

In Israel, 36.7% of elementary-aged students (Grades 4 to 6), recently rated their school as having either a large or very large school violence problem (Zeira *et al.*, 2003). Overall, a sizable proportion of both Jewish and Arab elementary school students rate their schools as having either a large or very large school violence problem (36.1% vs. 38.4% for Jews and Arabs, respectively; Zeira *et al.*, 2003). A large proportion of male (35.6%) and female (37.6%) students also viewed their school as having a large or very large school violence problem (Zeira *et al.*, 2003). These findings are somewhat perplexing as the base rates for different forms of personal victimization are very different for Arab and Jewish elementary school students (Harel *et al.*, 1997; Zeira, *et al.*, 2003). Yet Arab and Jewish students' subjective judgments of the overall severity of the school violence problem are remarkably similar for both ethnic groups. For these reasons, we believe the patterns surrounding elementary school students will be very similar for both Jewish and Arab groups.

These descriptive findings have been distributed widely to the Israeli general public and debated in the Israeli mass media. There is a growing sense of concern amongst politicians, academicians, and the overall public regarding elementary school students' perceptions of their schools and the level of fear surrounding school violence (Benbenishty, Zeira, & Astor, 2000a, 2000b; Bronner, 1999; Cohen, 1999; Gleit, 1999).

Which school-based variables have an influence on non-attendance due to fear and student judgments of the violence problem?

The construction of our theoretical model was informed by the existing empirical data pertaining to following set of questions: (a) 'which school-related variables would contribute most to students' assessments of their schools' violence problem?', and (b) 'which school variables contribute most to a student not attending school due to fear of violence?' In response to those questions, several possible school-related variables emerge as potential contributors.

Personal victimization by peers appears to be an important independent variable for *both* non-attendance and overall judgments of the schools. Previous studies conducted in Israel suggest that student victimization by peers is high (Benbenishty *et al.*, 2000a, 2000b; Harel *et al.*, 1997; Sherer, 1991). Victimization from weapons, sexual harassment, school fights, bullying, verbal abuse, and an array of other physically and psychologically harmful behaviours perpetrated by peers are possible contributors to students' fear and their judgments of their schools' safety (Astor, Benbenishty, Haj-Yahia *et al.*, 2002; Astor, Benbenishty, Marachi *et al.*, 2002; Benbenishty *et al.*, 2000a; Slee, 1995; Zeira *et al.*, 2002, 2003, for detailed reports on specific kinds of aggression/violence). Several studies have

reported that one significant outcome personal victimization by peers leads to avoidance of school due to fear of further victimization (i.e. Astor *et al.*, 2002; Benbenishty *et al.*, 2002; Olweus, 1993; Smith, 2003)

Victimization of students by the school staff may also contribute to student judgments of their school and non-attendance due to fear. Most school violence studies report mainly student-to-student violence outcomes (Benbenishty, Zeira, & Astor, 2002; Benbenishty, Zeira, Astor, & Khuri-Kassabari, 2002). However there is historical and recent data suggesting that teachers also victimize students (Astor, Benbenishty, & Marachi, 2004). Some authors have suggested that victimization of students by educational staff is actually quite prevalent (Astor *et al.*, 2002; Benbenishty *et al.*, 2002; Hyman & Perone, 1998a, 1998b; Hyman & Wise, 1979). Furthermore, victimization by teachers is believed to produce potentially severe traumatic and mental health outcomes in students who are victims (Hyman & Perone, 1998a, 1998b). This trauma could lead to school non-attendance, school drop-out, and avoidance of teachers or specific classes at school. However, the global bullying literature is replete with studies and case examples of how peer victimization could evoke fear reactions that lead to school non-attendance. However, only a handful of recent empirical studies have examined this issue systematically on a national sample of students (e.g. Elbedour Center, Maruyama, & Assor, 1997).

In Israel, student victimization by teachers is also relatively high (Benbenishty *et al.*, 2002; Benbenishty *et al.*, 2000a, 2000b; Elbedour *et al.*, 1997; Youssef, Attia, & Kamel, 1998). For example, Benbenishty *et al.* (2000a) found that in 29% of Israeli elementary schools, students report being emotionally maltreated (e.g. publicly mocked, humiliated, cursed at, or called bad names) by their teachers during the month prior to taking the survey. Jewish and Arab elementary students report very similar rates of emotional maltreatment by teachers (28% vs. 32.2% for Jewish and Arab). Overall, 22.2% of elementary school students in Israel report some form of physical maltreatment from their teachers (e.g. grabbed, shoved, pinched, slapped, kicked, or punched). There are marked differences between Arab and Jewish students' reports of teacher physical maltreatment. Arab students are more than twice as likely (38.3%) as the Jewish students (16.8%) to report physical maltreatment by their teachers during a 1-month period. These high levels of victimization exist despite Israel's strict rules and regulations banning any form of corporal punishment in both Arab and Jewish schools. On the whole, Arab and Jewish schools are quite separate, and it is rare to have mixed schools of Arab and Jewish students. Likewise, the staff in Arab schools are Arab, and the staff in Jewish schools are Jewish. Arab and Jewish teaching staff are under the same educational guidelines, rules, and teacher credential criteria. Based on the findings from these prior studies we suspect that direct victimization by teachers and/or peers will be a strong contributor to student's, non-attendance at school due to fear.

Several studies in Israel and elsewhere have provided evidence suggesting that risky peer-group behaviours on school grounds are strongly associated with both Arab and Jewish students' victimization (Astor, Benbenishty, Haj-Yahia *et al.*, 2002; Astor, Benbenishty, Marachi *et al.*, 2002; Astor *et al.*, 2002; Benbenishty *et al.*, 2002). The schools' rules and policies, the teachers' responses to violent events, and the overall care and maintenance of the school have all been implicated as possible contributing variables to students' fear and their assessment of the school violence problem, both in Israel and internationally (Astor *et al.*, 2002; Benbenishty *et al.*, 2002; Olweus, 1993; Smith *et al.*, 1999; Smith & Sharp, 1994; Sullivan, 2000). However, assessing risky peer behaviours and judging the way the school responds to violent

events requires students to gather multiple sources information about the organization of the school (e.g. what behaviours the peer group exhibits, how the school rules or procedures address risky behaviours, how the teachers/principal actually respond to events). Judging an entire school is a complex endeavour. There are many socio-organizational issues that elementary-aged students need to factor into the judgment before they can make an assessment about the entire school context.

Specific hypotheses and proposed theoretical model

We propose that elementary school students' school non-attendance due to fear of violence is impacted directly by personal victimization by teachers/staff and students (see Fig. 1 for a visual depiction). In our view, personal victimization is such a strong experience that it ultimately leads to fear. Please note that the dotted or solid lines within Fig. 1 represent our hypotheses. The solid lines indicate that we predict a relationship between the two variables. The plus or minus signs indicate our prediction of a positive or negative relationship between the variables. The dotted lines signify that we predict a very weak or no direct relationship between the variables (in Fig. 1, mainly between school climate and fear and between risky peer group behaviour and fear). We expect that students' reports of risky peer-group behaviours in the school and their reports of school climate variables will not effect their school non-attendance due to fear of violence directly, but will be mediated by the students' personal victimization by students and teachers in their school setting. Thus, risky peer-group behaviours and school organization variables will only indirectly affect the dependent variable of non-attendance of school due to fear of school violence.

By contrast, our model predicts that the perceived seriousness of the violence problem in school will be impacted directly through students' reports of (a) personal victimization (by students and teachers), (b) risky behaviours they observe on school grounds (i.e. the presence of weapons, illegal substance use, vandalism, theft, and

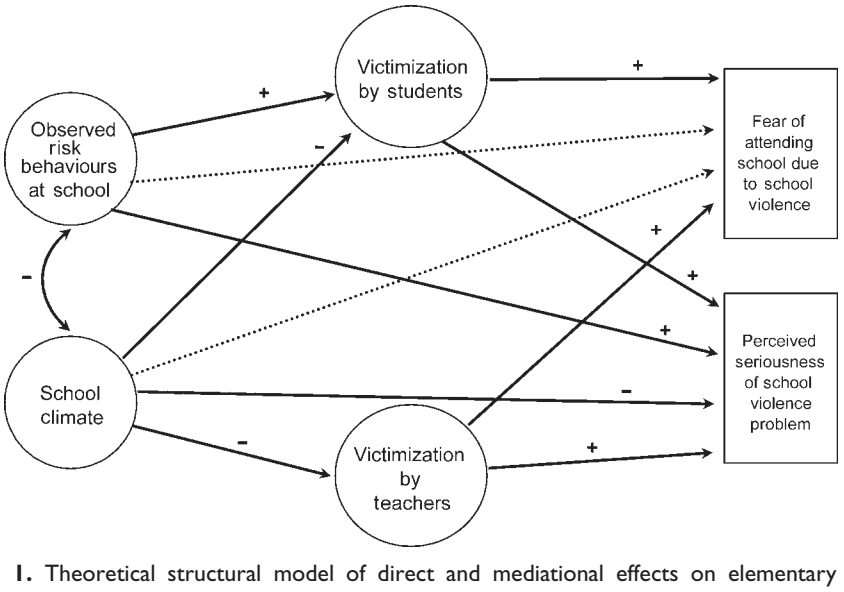

Figure 1. Theoretical structural model of direct and mediational effects on elementary school students' school non-attendance due to fear of violence and perceived seriousness of the violence problem. Lines with plus, minus, and dotted lines represent hypothesized positive, negative, or weak relationships between the variables.

intentional and unintentional injuries), and (c) their assessments of school climate and organization. In addition to having a direct effect on their assessment of the problem, we predict that the variables of observed risk behaviours and school climate will also have an indirect effect on their assessments of a problem that is mediated through their personal victimization (see Fig. 1 for a visual display of the direct and indirect paths). We also predict that observed risk behaviours will have a strong negative association with a positive school climate.

These hypotheses were tested using structural equation modelling methods on a nationally representative sample of elementary school students in Israel. Prior studies (with different samples) tested these hypotheses separately for high schools (see Astor *et al.*, 2002) and for junior high schools (Benbenishty *et al.*, 2002).[2] We believe that it is important to test these exact hypotheses in elementary schools because they have very different organizational structures, missions, and philosophies than junior high and high schools.[3]

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[2] *Indeed, as we predicted in our model, non-attendance of secondary school due to fear was affected directly by personal victimization but only influenced indirectly by the school climate and risky peer group. Assessment of the violence problem was influenced by many school-related variables, but risky peer group behaviours on school grounds had the greatest negative impact on students' judgments of their school's violence problems. Given our objective to explore the influence of school-related variables, the theoretical model accounted for a relatively large portion of the variance explaining students fear of attending school (23% and 26% for high school and junior high school, respectively: Benbenishty et al., 2002; Astor et al., 2002) and for judgments of their schools violence problem (29% and 32% for high school and junior high schools, respectively; Benbenishty et al., 2002; Astor et al., 2002). In these secondary schools, the overall theoretical model fit well for both Arabs and Jews and for males and females. Although Arab and Jewish secondary schools have very different cultural perspectives, our findings suggest that school context variables impact fear and judgments of a problem in similar ways.*

[3] *At the core of the dilemma is a conflict between assumptions in developmental theory with findings from school organization literatures. This study tests out two competing hypothesis about the way elementary school children possibly think about their school's violence problem and if they (and variables associated with judgment of the school) are at all related to children's non-attendance of school due to fear of school violence. Findings from diverse developmentally oriented literatures (bullying, cognitive development, student victimization, corporal punishment in schools – these literatures are quite distinct) have different assumptions/findings concerning violent school events through development. For example, the bullying literature studies from across the globe show that bullying victimization is extremely high in elementary schools and dramatically decreases as children grow older and go through elementary school and high schools (a sharp downward slope). In fact, contrary to popular beliefs, data from many countries show that high school students overall report less victimization than middle schools and elementary schools. By these accounts, it follows that elementary school children most likely have already pre-formed perceptions and judgments of their school's violence problem, their peer group, their school response to these events, and their own victimization experiences. From these literatures it could be hypothesized that elementary schools students' experiences with victimization would be similar enough and frequent enough that they would be familiar with the dynamics tested and that they learn – early on – (perhaps far before elementary school) to form judgments on their school and opinions about the variables that contribute to these judgments/behaviours. If these assessments occur at a young age, these patterns should be similar in elementary, junior high school, and high school (e.g. that these are early learned assessments/behaviour patterns). However, there are several other educational literatures that would lead to different conclusions. For example, in the school violence/school disruption literature there is a strong belief that middle schools and high schools should be structured similar to elementary schools. Some authors have advocated for smaller schools, smaller classes, a more intimate teacher/child relationship, a more caring social organization, and a mission/goal of the school that reflect social relationships in addition to academics. While these are admirable goals for all schools, the violence in school literature does not produce results consistent with these views of elementary schools. Very few large-scale studies have been conducted to support this belief that elementary schools are more caring and less violent places (as mentioned – the bullying literature reports quite the opposite). This genre of teacher-care literature would predict that elementary schools would be qualitatively different in peer social dynamics, teacher orientation, school organization, and other contextual variables associated with students' experiences. Again, in the teacher education literature, elementary school settings are described as more caring, more responsive and reactive to student behaviour, and focused on helping students build relationships. Middle schools and high schools are characterized as focusing almost exclusively on academic functioning. These goals have, in fact, been major goals in the school reform literature. Furthermore, the developmental literature on aggression, and social information-processing/script theory give greater weight to the role of the adolescent peer group versus the role of the teacher or the school (even though they rarely measure the school/teacher impact). Some cognitive psychologists and information-processing theorists have documented age related developmental differences in the development of aggression. Because of their emerging cognitive development, it is not clear if elementary schools students have the capacity to balance perceptions of the peer group, school organization, and victimization experiences in the same way that older middle and high school students think. This study can help clarify these theoretical issues.*

We use structural equation modelling to explore the goodness of fit between the data and our theoretical model. While we have general hypotheses reflected in the theoretical model, our predictions regarding specific differences (paths) between males and females and Arabs and Jews are more exploratory in nature. With that caveat in mind, we expect the overall structural model to fit both cultural groups and genders. We predict that any differences between gender and cultural groups will be due mainly to the differential contributions of each of the independent variables (specific paths from observed risk behaviours, school organization/climate, and victimization) to the dependent variables (fear and assessment of the problem), rather than an entirely new structural model (the general relationships variables have with each other).

Method

Sample, design, and procedure

The findings reported in this study are part of a large national survey of school violence in Israel, which was conducted among fourth to sixth grade elementary school students throughout Israel during autumn 1998. Students were given a structured questionnaire in classrooms under the guidance of professional monitors (the same company that conducts Israel's matriculation tests [like the USA SATs]). The sample was designed to represent all elementary school students in Grades 4 to 6 in the official public school system supervised by the Israeli Ministry of Education. Principals of the schools in the sample received a formal request to participate in the study from the Chief Scientist of the Ministry of Education and the General Director of the Ministry of Education. The vast majority of the schools cooperated; the response rate was 91%.

The probability sampling method was a two-stage stratified cluster sample. The strata were Jewish/Arab, Religious/Secular. In the first stage, schools were selected randomly from the sampling frame according to their appropriate strata. In the second stage, within each of the selected schools, one class was selected randomly from each of the grade levels. Participants were all the students with informed consent and permission that attended that class during the time of the survey.

The sampling procedure yielded responses from 5,472 elementary school students from 206 classes in 71 schools across Israel. There were 2,189 Arab and 3,283 Jewish elementary school students in this sample. The sample divided into the fourth, fifth, and sixth grades (approximately 33% of the sample in each grade level). The sample was fairly equally divided by gender (48% male and 52% female). In order to allow comparisons between Arab and Jewish students, we over-sampled Arab students. Therefore, we employed sampling weights so that our sample represents the Israeli national elementary school student body. All analyses reported in this study were conducted with these sample weights. Hence, the sample used and the results reported in this study are representative of and generalizable to elementary school students in Israel.

The elementary-school student questionnaires were based on an adapted version of the California School Climate Survey (developed by Furlong and used in California, see Furlong, 1999, and Rosenblatt & Furlong, 1997). The research instrument had 54 questions and was designed specifically for the younger students in the elementary schools (Grades 4 to 6). The instrument had multiple questions pertaining to school climate, teachers' support of students, and personal victimization over a range of low-level (pinching, slapping) to high-level (extortion, gun threats) violent behaviours, risky peer-group behaviours, and organizational procedures surrounding school violence.

The original items were translated from English to Hebrew and Arabic. To ensure translation accuracy, they were retranslated into English. Multiple translations and retranslations were made and then compared. Some items were adapted to the Jewish–Israeli and Arab–Israeli culture and jargon. The adaptation was based on the relevance to the Israeli context and not on statistical validation per item. A number of studies supported the relevance and empirical validity of this scale in the Israeli context (see Benbenishty & Astor, 2005; Khoury-Kassabri, 2002, for more detailed descriptions of the processes used). The translated questionnaires were piloted and checked in a pre-test on several thousand Jewish and Arab elementary school students.

Measures

Dependent variables

Missing school due to fear of school violence

This dependent variable was measured by a single question. We asked respondents to indicate, 'During the last 4 weeks, how many times did you not come to school because you were afraid that somebody would hurt you in school or on the way to school?', on a scale of 0 = *never, not even once*; 1 = *once;* 2 = *twice;* 3 = *more than twice.*

Perceived seriousness of school violence as a problem

This dependent variable was measured by a single question. We asked students to rate the magnitude of the problem of violence in their school on a scale that ranged from 1 = *not at all or very little problem* to 5 = *a very big problem*.

Independent variables

To measure the independent factors in our model we constructed several scales, each containing a number of subscales. For the purpose of the structural equation modelling analyses, several subscales were constructed based on conceptual and theoretical constructs believed to impact children's fear and perception of the problem. Table 1 lists the domains, question items, factor loadings, and alphas for the theoretically created subscales. Each of these subscales creates the overall factor composites that represent components of the more general theoretical concepts discussed earlier in the article.

The risky peer-group behaviour factor was created by averaging seven items listed in Table 1. This section listed risky behaviours that occurred with the peer group or others in the school and include issues related to the child's awareness of peer-group substance use, theft, student fights, weapons, and other risky peer activities on campus. Students were asked how often they observed these types of behaviours with other students in their school during the past month. The scale ranged from 1 = *never* to 5 = *very often*.

The school climate and organization factor was composed of three subscales. One subscale included six questions about teachers and staffs' supportive relationships with students. The second subscale included four questions about students' judgments concerning school policies or procedures aimed at reducing violence, and the third subscale included two questions about the maintenance of school grounds and the classroom. Students were asked to rate their level of agreement with the statements listed. The scale ranged from 1 = *strongly disagree* to 4 = *strongly agree*.

The *victimization by students factor* was created by forming five subscales (according to severity of violence) from 13 questions about personal victimization listed

(in abbreviated form) in Table 1. For these sets of behaviours we asked students to indicate how many times the specific behaviour happened to them during the past month. Students could check off one of three categories: *never, one or two times*, or *more than three times*. We recoded these variables to *'never'* and *'at least once'*.

The victimization by teachers or staff factor was a latent factor in the analysis that was composed of two subscales. The first subscale consisted of three items addressing physical victimization; the second was created with two items that were measures of verbal victimization. Students were asked if they were victims of these behaviours perpetrated by teachers or staff during the last month. The scale was dichotomous, $1 = yes$, $2 = no$.

Results

Strategy of analyses

Together, our hypotheses form the structural model presented in Fig. 1. The model was tested by confirmatory latent-variable structural analyses using the EQS programme (Bentler, 1995; Bentler & Bonnett, 1980). These analyses were performed (a) for the total elementary-school sample, (b) by gender of the students, and (c) by the major cultural-ethnic groups in the sample (Jews and Arabs). All of the analyses were performed separately on listwise and pairwise covariance matrixes that were weighted according to the sampling design. The results were virtually the same and we therefore present the analyses based on the pairwise matrices that generated slightly better goodness-of-fit indices and are based on larger portions of the original sample. We follow the recommendation of Raykov, Tomer, and Nesselroade (1991) and report the following goodness-of-fit measures: normed fit index (NFI), non-normed fit index (NNFI), and comparative fit index (CFI). We also report two misfit indices that are widely used: root mean square error (RMR) and root mean square error of approximation (RMSEA). Fit indices that exceed .90 and RMR and RMSEA misfit indices that are at or below .05 and .06, respectively, are considered to indicate acceptable fit (Hu & Bentler, 1999). Since even very small differences in a large sample tend to produce a statistically significant χ^2, other measures such as the NFI, the NNFI and CFI, are used as indicators of goodness of fit. For example, Hayduk (1987) suggested that the χ^2 is instructive primarily for samples ranging from about 50 to 500 cases (p. 169). The size of the sample used for testing our model was 5,472 and therefore the statistical significance of the χ^2 is ignored in favour of the other fit measures.

Analysis based on the total sample

Table 2 represents the means and standard deviations of the variables included in our model, broken down by ethnicity/culture and gender. Table 3 represents the intercorrelations matrix among the variables.

Figure 2 represents the results of the overall model with the whole elementary school sample. The starting-points in our model are the direct effects of the risky peer group behaviour at school and the school climate on the dependent variables of school non-attendance due to fear of violence and the students' perceived seriousness of school violence as a problem. The model also includes the mediating effects of the victimization reported by students that they experienced directly from other students and from teachers and/or staff (see Fig. 2 for betas and the standardized regression coefficients of specific paths). Two additional estimated parameters that include the covariance between risk and the disturbance term for victimization by teachers/staff ($r = .21$),

Table 1. Theoretical domains, subscales, and items used to create EQS model

Domain (alpha's)	Subscales (loadings)	Items
Risky peer group factors ($\alpha = .74$)	Drugs/drinking weapons (loading = .49)	Students bring weapons such as guns, knives, sticks to school
		Students drink alcoholic beverages
		Students use drugs
	Other peer risk (loading = .81)	Students steal things from other students or teachers
		Students break things at school (vandalism)
		Strangers (adults) enter the school during the day
		Students get hurt from accidents
School climate ($\alpha = .82$)	Teacher support (loading = .68)	When one of the students has an emergency, there is always an adult ready to help them
		The teachers at my school are nice to students
		Most of the adults in this school can be trusted
		In this school, teachers and students care about each other
		When I have problems, I feel comfortable talking to teachers about it
		When teachers think I'm doing well at school, they tell me that
School climate ($\alpha = .82$)	Teacher support (loading = .68)	When students break the rules, it is taken care of firmly but fairly
		The laws and rules at our school are fair
		The teachers successfully take care of problematic students who cause problems
		At my school there are clear and known rules against violence
	Maintenance of school (loading = .76)	My school is kept clean and tidy
		My classroom looks very nice
Victimization by students ($\alpha = .87$)	Serious physical (loading = .73)	Used a rock to hurt you
		Took things away from you by force
		You were extorted
	Serious threat (loading = .71)	Threatened with a knife
		Threatened to harm or hit you
	Moderate physical (loading = .60)	Kicked or punched
		Seized and shoved you on purpose
	Moderate threat (loading = .64)	Tried to intimidate by looking at you
		Mocked/insulted/humiliated you
		Cursed you
Victimization by students ($\alpha = .87$)	Dangerous acts (loading = .68)	Saw a student with a gun
		You saw a student in school with a knife
		Threatened on the way to school
Victimization by staff ($\alpha = .94$)	Physical victimization (loading = .74)	A staff member kicked or punched you
		A staff member grabbed and pushed you on purpose
		A staff member pinched you or slapped you
	Emotional victimization (loading = .71)	A staff member mocked you, insulted you, or humiliated you
		A staff member cursed you

and the covariance between the two disturbances of victimization by students and victimization by teachers/staff ($r = .48$) are not shown in Fig. 2.

The results of the analysis provided a good fit to the data with $\chi^2(64, N = 4687) = 1,054$, $p < .001$[2] and with NFI = .95, NNFI = .93, CFI = .95, RMR = .02, ,RMSEA = .057. As is readily apparent, fear of attending school is directly influenced by both the students' personal experience of victimization from their peers ($\beta = 0.20$, $p < .001$) and by teachers and staff ($\beta = 0.23$, $p < .001$). The dependent variable of school non-attendance due to fear is only indirectly affected by the risky peer-group behaviour at school and by the school climate. In turn, the perceived seriousness of the school violence problem is influenced directly by the peer risks at school ($\beta = 0.33$, $p < .001$) and adversely by the school climate ($\beta = -0.17$, $p < .001$). The perceived seriousness of the problem was also indirectly affected by risky peer group behaviour through the mediated effects of victimization by students ($\beta = 0.16, p < .001$; this beta also reflects the mediated contribution from school climate). The school climate has an indirect influence on fear mediated through victimization by teachers and staff ($\beta = -0.06, p < .001$) and through victimization by students. The level of victimization by students was influenced primarily by the peer group risks at school ($\beta = 0.52$, $p < .001$) and also by school climate ($\beta = -0.13, p < .001$). As we expected, there was a strong negative relationship between risky peer group behaviour and a positive school climate ($r = -.46$). Finally, a positive school climate decreased students' reported victimization by teachers and staff ($\beta = -0.34, p < .001$). The overall model explained 13% of the variance for the dependent variable of students' non-attendance of school due to fear. For the second dependent variable of perceived seriousness of violence as a problem, the overall model explained 27% of the variance.

Gender analyses

The next analysis focused on the appropriateness of the overall theoretical model for male and female students. Specifically, we examined how the male and female students' experiences of risky peer-group behaviour, school climate, and victimization impacted their perceptions of school violence as a problem and their fear of attending school. To answer these questions, we applied the structural modelling for the subgroups of male and female students in the same estimation procedure with no constraints between the subgroups. This analysis attempted to fit the covariance matrices of the two subgroups simultaneously to the same model, and it produced a good fit to the data, $\chi^2(128, N$: males = 1,996, females = 2,173) = 1,025, $p < .001$, and with NFI = .94, NNFI = .93, CFI = .95, and RMR = .02, RMSEA = .04.

To provide a more stringent and specific test of whether the impact of the independent and mediator factors is the same in the male and female subgroups, the same analysis was repeated constraining the factor loadings and path coefficients to be equal across the two subgroups. In addition, we also constrained to equality across the subgroups (males/females) (a) the covariance between risky peer group behaviour and school climate, (b) the covariance between the disturbance of victimization by students and by teachers/staff, (c) the covariance between peer group risk and disturbance for the victimization by teachers/staff, and (d) the variances of risky peer group behaviour and school climate and the disturbances of the victimization by students and by teachers/staff.

The fully constrained model across the male and female subgroups produced an acceptable fit with $\chi^2(154, N$: males = 1,996, females = 2,173) = 1,137, $p < .001$, and with NFI = .93, NNFI = .93, CFI = .94 and RMR = .03, RMSEA = .04. However,

Table 2. Mean (standard deviation) of subscales by ethnicity–culture and gender

	Jewish		Arab	
Subscale	Male	Female	Male	Female
A. Observed risk behaviours				
Drugs/drinking weapons[a]	2.46 (0.81)	2.40 (0.75)	2.34 (0.84)	2.21 (0.78)
Other peer risk	1.22 (0.49)	1.15 (0.36)	1.33 (0.70)	1.21 (0.51)
B. School climate[b]				
Teacher support	3.03 (0.61)	3.10 (0.55)	3.12 (0.64)	3.16 (0.65)
School policies	3.07 (0.65)	3.14 (0.58)	3.09 (0.72)	3.15 (0.72)
Maintenance	2.91 (0.78)	3.05 (0.71)	3.19 (0.86)	3.31 (0.80)
C. Peer victimization[c]				
Serious physical	0.37 (0.43)	0.24 (0.38)	0.43 (0.53)	0.30 (0.47)
Serious threat	0.47 (0.47)	0.34 (0.41)	0.45 (0.57)	0.26 (0.45)
Moderate physical	0.79 (0.64)	0.54 (0.57)	0.73 (0.65)	0.52 (0.59)
Moderate threat	0.91 (0.55)	0.84 (0.54)	0.62 (0.57)	0.47 (0.54)
Dangerous acts	0.33 (0.40)	0.22 (0.35)	0.43 (0.51)	0.25 (0.42)
D. Staff victimization[c]				
Physical	0.22 (0.42)	0.12 (0.33)	0.47 (0.50)	0.31 (0.46)
Emotional	0.30 (0.46)	0.28 (0.45)	0.36 (0.48)	0.27 (0.45)
E. Nonattendance due to fear[c]	0.18 (0.39)	0.14 (0.35)	0.35 (0.48)	0.25 (0.43)
F. Severity of problem[d]	2.95 (1.29)	2.89 (1.22)	2.63 (1.39)	2.56 (1.38)

[a] On a scale: 1 = *never* to 5 = *very often*.
[b] On a scale: 1 = *strongly agree* to 4 = *strongly disagree*.
[c] On a scale: 0 = *no* 1 = *at least once in the last month* (the data from the original scale were collapsed to 'one or more').
[d] On a scale: 1 = *not at all or very little problem* to 5 = *a very big problem.*

we found that the fit of the constrained model could be improved by a statistically significant degree upon releasing two constraints of the equality of the path coefficients (a) between school climate and fear of attending school, and (b) between school climate and victimization by teacher and staff. When these constrained paths were released we obtained a $\chi^2(152, N$: males = 1,996, females = 2,173) = 1,118, $p < .001$, and with NFI = .93, NNFI = .93, CFI = .94 and, RMR = .03, RMSEA = .04. For the male students, the direct path coefficients between school climate and fear, and school climate and victimization by teachers and staff were .05 and − .37, respectively. In contrast, for the female students these coefficients were, − .06, and − .28, respectively. As expected, risky peer-group behaviours were negatively associated with a positive school climate (r's = −.47 for both males and females).

Overall, for both subgroups, fear of attending school was most influenced by student victimization (βs = 0.21 and 0.20 for females and males, respectively), and teacher victimization (βs = 0.22 and 0.21 for females and males, respectively). School climate and risky peer-group behaviour contributed to students' fear indirectly through experiences of victimization. Peer risk behaviours contributed to both girls' and boys' victimization (βs = 0.56 for both groups). A positive school climate had an opposite direct impact on boys and girls. Whereas, for boys it slightly increased fear (β = +0.05), for girls, it slightly, but significantly decreased fear (β = −0.06).

Table 3. Matrix of correlations among school violence subscales

Subscale	A1	A2	B1	B2	B3	C1	C2	C3	C4	C5	D1	D2	E	F
A1 Drugs and weapons	1.00													
A2 General peer risk	0.39	1.00												
B1 Teacher support	−0.21	−0.24	1.00											
B2 School policies	−0.20	−0.24	0.63	1.00										
B3 Maintenance	−0.17	−0.26	0.55	0.49	1.00									
C1 Serious physical	0.25	0.36	−0.23	−0.24	−0.18	1.00								
C2 Serious threat	0.20	0.31	−0.19	−0.20	−0.18	0.53	1.00							
C3 Moderate physical	0.14	0.30	−0.16	−0.15	−0.19	0.44	0.46	1.00						
C4 Moderate threat	0.14	0.33	−0.21	−0.18	−0.23	0.48	0.50	0.48	1.00					
C5 Dangerous acts	0.32	0.34	−0.22	−0.25	−0.20	0.54	0.53	0.40	0.40	1.00				
D1 Teacher physical	−0.23	−0.21	0.20	0.23	0.14	−0.38	−0.30	−0.25	−0.21	−0.36	1.00			
D2 Teacher emotional	0.17	0.24	0.22	0.23	0.17	−0.34	−0.28	−0.24	0.31	0.31	0.54	1.00		
E Missing school due to fear	0.21	0.14	−0.14	−0.15	−0.07	0.30	0.23	0.15	0.14	0.27	0.32	0.21	1.00	
F Severity of problem	0.14	0.39	−0.25	−0.23	−0.27	0.25	0.25	0.25	0.29	0.24	0.15	0.19	0.08	1.00

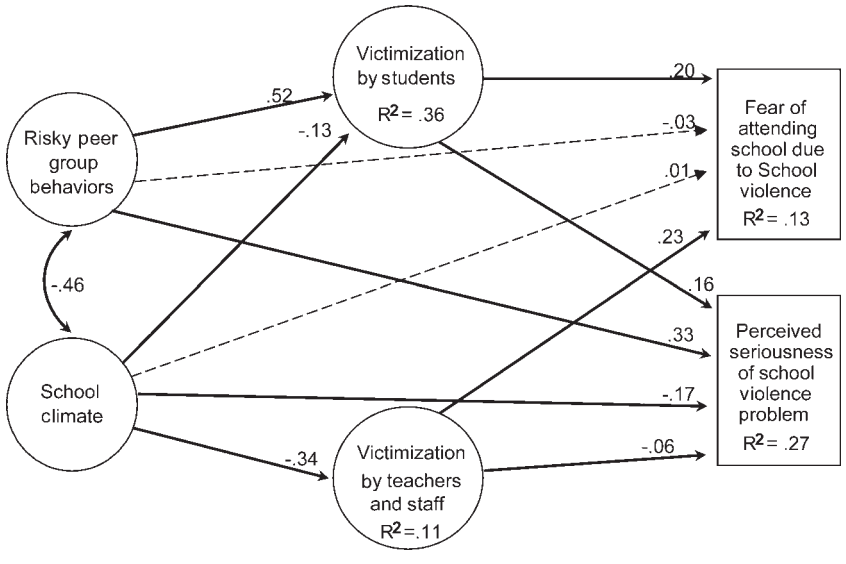

Figure 2. Structural equation modelling of direct and mediational effects on elementary school students' school non-attendance due to fear of violence and perceived seriousness of the violence problem. Full lines with arrows represent statistically significant path coefficients (standardized) or correlations at .05 or above. $\chi^2(64, N = 4687) = 1054$, $p < .001$, with NFI = .95, NNFI = .93, CFI = .95 and, RMR = .02, RMSEA = .06.

However, with the perceived seriousness of the school violence problem there were greater differences in the coefficients of the indirect paths leading from school climate to victimization by teachers ($\beta' = -0.28$ vs. -0.37 for females and males, respectively). The overall model explained 15% of the variance on fear for females and 11% for males. For perceived seriousness of school violence, the overall model explained 28% versus 29% of the explained variance for females and males, respectively.

Ethnic and cultural group analyses

The next analysis focuses on the Jewish and Arab subgroups. In this analysis it is important to mention that these two groups are compared across two culturally different school systems. We questioned whether the same general structural model represents a good fit for both the Jewish and the Arab student subgroups. Similar to our analysis on gender, we first applied the structural modelling for the two subgroups using the same estimation procedure with no constraints between the subgroups. This analysis attempted to fit the covariance matrixes of the two subgroups simultaneously to the same model, and it produced a good fit to the data, with $\chi^2(128, N$: Jews = 2,868, Arabs = 1,799) = 830, $p < .001$, and with NFI = .96, NNFI = .95, CFI = .96 and, RMR = .02, RMSEA = .03.

Again, to provide a more stringent and specific test of equality of both structure and paths of influence, the same analysis was repeated constraining the factor loadings and path coefficients to be equal across the two cultural subgroups. The fully constrained model across the subgroups produced an acceptable fit with $\chi^2(154, N$: Jews = 2,868, Arabs = 1,799) = 1,295, $p < .001$, and with NFI = .93, NNFI = .93, CFI = .94 and, RMR = .05, RMSEA = .04. Although the fit was acceptable, the results

indicated that it could be improved substantially by releasing most of the equality constraints. We therefore tested a partially constrained model that included the constraints on all factor loadings and on three paths. All three paths originate from risky peer group behaviour at school and lead to (a) fear of attending school, (b) perceived seriousness of the violence problem, and (c) victimization by students. The equalities on all other paths and the correlation between peer group risk and school climate were released according to the results of the Lagrange test. This test points out the constraints that reduce the fit of the model to a significant degree. The new partially constrained model for the two national groups provided much better fit than the fully constrained model with $\chi^2(139, N$: Jews $= 2{,}868$, Arabs $= 1{,}799) = 957$, $p < .001$, and with NFI $= .95$, NNFI $= .95$, CFI $= .96$ and RMR $= .02$, RMSEA $= .04$. The results of this analysis are presented in Fig. 3 with the standardized regression coefficients above the directional arrows. Except for the three pairs of coefficients on the paths that were constrained to equality across the cultural subgroups, the differences between the path coefficients for the Jewish group (displayed in regular print) and the Arab group (displayed in bold print) are statistically significant.

However, because of the large sample size, even small differences are statistically significant. We therefore focused our attention on paths that represent relatively large differences between the groups. For Jewish students, both victimization by students and victimization by teachers had a direct influence on their fear of attending school ($\beta = 0.20$ for both). Compared with the Jewish students, Arab students' fear was influenced greatly by victimization by other students ($\beta = 0.34$) but only slightly by victimization by teachers ($\beta = 0.05$). For Arab students, a positive school climate decreased their fear of attending school ($\beta = -0.02$). In contrast, for the Jewish students this effect was not significant. The path between school climate and student victimization was significantly weaker for the Jewish students than for Arab students (βs $= -0.09$ and -0.22, respectively). Both risky peer-group behaviours and school climate had large indirect contributions to the outcome of fear. The effects of risky peer-group behaviour and school climate were mediated through student and teacher victimization. As expected, risky peer-group behaviours were negatively associated with a positive school climate. Nevertheless, this relationship was much stronger for Jewish students than Arab students (rs $= -.53$ and $-.28$, respectively).

The path coefficients between risky peer-group behaviours and perceived seriousness of a problem were strong and similar for both Jewish and Arab students ($\beta' = 0.30$ and 0.31, respectively). However, for Jewish students, victimization by other students had a much stronger influence on their perceived seriousness of the problem than the Arab students (βs $= 0.24$ vs. -0.04, respectively). Conversely, a positive school climate reduced Jewish students' perceived seriousness of a problem to a significantly larger extent than it did for the Arab students (βs $= -0.22$ vs. -0.02, respectively). Finally, victimization by teachers increased Arab students' perceived seriousness of the problem but it reduced the magnitude of the perception of the problem for Jewish students. Overall, for school non-attendance due to fear of violence, the structural model explained 12% and 18% of the variance for Jews and Arabs, respectively. For the dependent variable of perceived seriousness of the school violence problem, the overall model explained 33% of the variance for Jewish students and 15% of the variance for Arab students.

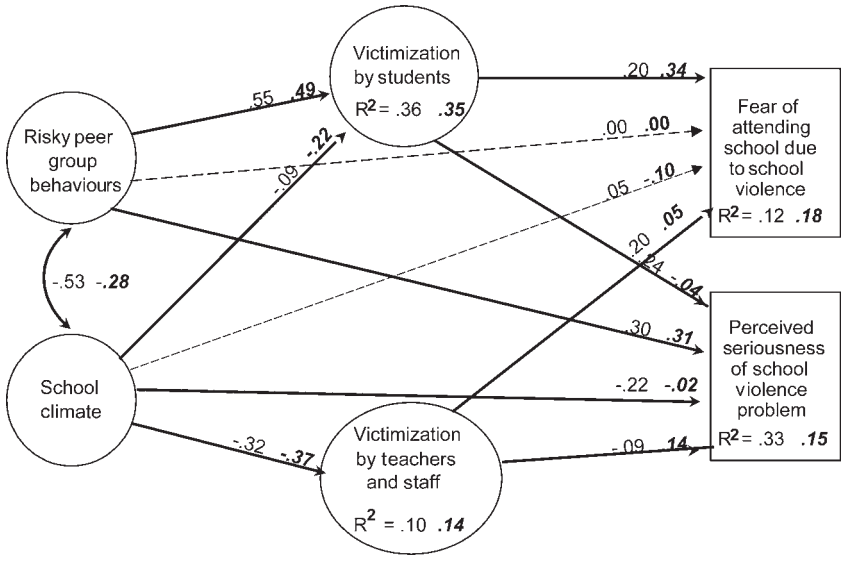

Figure 3. Structural equation modelling of direct and mediational effects on Jewish versus Arab elementary school students' school non-attendance due to fear of violence and perceived seriousness of the violence problem. Full lines with arrows represent statistically significant path coefficients (standardized) or correlations at .05 or above. The coefficients in regular print and those in bold print, represent, respectively, the results for the Jewish and the Arab samples. $\chi^2(139, N$: Jews = 2,868, Arabs = 1,799) = 957, $p<.001$, with NFI = .95, NNFI = .95, CFI = .96 and RMR = .02, RMSEA = .04.

Discussion

The influence of the school: Fear and assessment of the violence problem

The impact of the school

The primary goal of this study was to explore how school-based variables influence elementary school students' (a) non-attendance of school due to fear of violence, and (b) judgments of their schools violence problem. The findings show that students' *fear of violence* and their *assessments of the violence problem* are associated systematically with school context variables in different ways. This study provides support for the hypothesis that student avoidance of school due to fear is due to personal experiences of victimization in the school setting. The findings also support the hypothesis that elementary school students consider a much larger array of school-related factors when assessing the overall safety of the school setting. Our results show that students' fear of attending school is unrelated to how they assess the overall violence problem in their school (Table 3). These findings strengthen our hypothesis that fear is driven mainly by victimization experiences while school-wide safety judgments are formed by an array of school variables.

This study provides initial evidence that for elementary school students, the avoidance of school due to fear of violence may be emanating primarily from an emotional and personal domain. The students' judgment of a school's overall violence problem may stem from a cognitive-informational process, and therefore involve the direct influence of more types of school-related variables. This should be explored in further detail by future studies. The structural model tested in this study is applicable to elementary school males and females in both Arab and Jewish schools. The model put forth in this study produced

similar findings to studies conducted with Arab and Jewish students in junior high schools (Benbenishty *et al.*, 2002), and high schools (Astor et al., 2002).[4]

There are several theoretical and practical implications that can be drawn from the findings of this study. Broadly speaking, this study demonstrates that school variables can help explain two important school violence outcomes. The paucity of inquiries that explore the social context of the school has hampered the development of school violence theories (Astor & Meyer, 2001; Devine, 1996; Furlong & Morrison, 2000; Griffith, 1995; Hyman & Snook, 2000; Mulvey & Cauffman, 2001; Sutton, 1995). By focusing more precisely and in greater detail on school context variables, this study was able to test hypotheses regarding how complex patterns within the school environment are connected with student perceptions about school violence. Furthermore, the findings are based on a nationally representative sample, which provides a rare opportunity to generalize the findings across an entire country's educational system (Israel). In the following sections we will discuss specific implications of the major findings. We highlight findings surrounding gender, culture, and contrast between the results found in elementary schools and findings from other studies that have explored these hypotheses in secondary schools.

Major implications for students' non-attendance due to fear

As predicted, elementary-school students' fear of attending school due to violence is directly related to their personal experiences of victimization. Fear, so great that a student would not attend school, is only indirectly associated with risky peer-group behaviours and the overall school climate. The effects of school climate and risky peer-group behaviours on non-attendance due to fear are mediated by the students' experiences of personal victimization by students and teachers. This means that a student who does not attend school due to fear is most probably responding to being victimized personally. These findings suggest that interventions or attempts to reduce school fear would need to be centred on students' personal victimization by both peers and/or teachers.

There are important similarities and differences across gender regarding how the school variables influence non-attendance due to fear. In elementary schools, personal victimization from students and teachers has the greatest influence for both males and females who do not attend school due to fear of violence. When compared with findings from other studies conducted in secondary schools (Astor *et al.*, 2002; Benbenishty *et al.*, 2002), this study suggests that elementary school dynamics influencing gender patterns of non-attendance are slightly different. For example, testing the same structural model used in this study, Benbenishty *et al.* (2002) and Astor *et al.* (2002) report that during junior high and high school, females' fear is related to victimization by other students while males' fears are more associated with victimization from both students and teachers.

The direct role of school-based victimization on school non-attendance due to fear is strong across diverse cultures. This study provided evidence that both Jewish and Arab students' non-attendance due to fear is associated most closely with being victimized

[4] *The greatest difference between the findings in the three settings concerns the overall variance explained for non-attendance due to fear of school violence. Compared with elementary schools, the theoretical model was able to explain twice the amount of the variance in junior high non-attendance and close to double the explained variance for high school non-attendance. Together, the results of the three studies suggest that school variables play a greater role in non-attendance due to fear in junior high and high school years than in elementary school. Overall, the theoretical model explains similar levels of variance for students ratings of their school as a problem in elementary, junior high, and high schools (27%, 29%, and 32% for elementary, junior high, and high schools, respectively; Benbenishty et al., 2002; Astor et al., 2002).*

personally. This finding is also similar to studies conducted in secondary schools. Given these cross-cultural findings, a common strategy may work to increase school attendance and reduce fear for both Arab and Jewish students. To decrease fear effectively, interventions should be focused specifically on reducing students' experiences of victimization by students and teachers or staff. School reform programmes focusing exclusively on the school organization variables or exclusively on the peer-group relationships should also include programmatic components highlighting the schools and peer groups' responses to students' experiences of victimization.

Major implications for students' assessment of violence as a problem

Student assessments of the entire schools' violence problem is directly affected by all the examined school variables including (a) their experiences of personal victimization, (b) the risky behaviours they observe in their peer groups, and (c) their assessments of the school organization. Of these variables, reports of risky peer behaviours on school grounds had the greatest association with students judgments of their school having a violence problem. The findings suggest that interventions designed to decrease students' perceptions of an overall violence problem in their school should target risky behaviours demonstrated by the peer group since they had a strong influence for all student subgroups. It also means that students' interpret the presence of these peer behaviours on campus as the most important school-based variable when determining whether their school has a violence problem.

In Israel, students' views of the school climate have a relatively strong direct effect on their judgment of a school violence problem only during elementary school. In secondary school settings, student perceptions of the school climate do not impact students' judgments of their school's problems directly (Astor *et al.*, 2002; Benbenishty *et al.*, 2002). These findings suggest that efforts geared towards improving the school climate are likely to change elementary school students' views of a violence problem, but are less likely to change secondary students' views of their schools' overall violence problems.

There were relatively few differences in the ways elementary school male and female students judged the overall school violence problem, implying that similar school-based strategies could be effective in improving both male and female students' views of the violence problem. The gender findings are somewhat surprising given the extensive literatures predicting potential differences in the ways male and female elementary students experience victimization at school (American Association of University Women, 2001; Artz, 1998; Astor & Meyer, 1999; Owens *et al.*, 2000; Potter, 1999; Sorenson & Bowie, 1994; Stanko, 1990; Stein, 1995, 1999; Zeira *et al.*, 2002). Nevertheless, Astor *et al.* (2002) and Benbenishty *et al.* (2002) found results similar to those reported in this study for male and female secondary students. Since this model and its findings have been replicated in three separate and large-scale studies, it is likely that Israeli males and females consider similar school-related variables in their summative judgments of their school's violence problems. Again, this should not be surprising considering that many earlier studies only deal with descriptive and frequency data. SEM is a confirmatory theory technique designed to explore complex patterns of relationships between many variables. It is possible to have very different base rates for male and females and have the exact same pattern of relationships between major variables (e.g. the qualitative value of good teaching responses may influence boys and girls similarly, even though boys may have more difficulties in a given area). More international research should be conducted to determine whether this gender pattern exists in other cultures.

There were some notable cultural differences between elementary school Jewish and Arab students in their judgments of their schools' violence problems. Jewish students' judgments of their school were more influenced by peer victimization while Arabs are more influenced by teacher/staff victimization (the opposite trends are true for fear). The combined contributions of school climate, risky peer-group behaviour, and victimization by peers had a much greater impact on Jewish students' views of the perceived violence problem in their schools. By contrast, risky peer-group behaviours and personal victimization by teachers were more salient for the Arab students when they judged their schools' violence problem. Studies in junior high and high schools suggest that there are greater cultural differences in the way Arab and Jewish secondary students categorize their schools violence problem.[5]

The cultural findings surrounding students' judgments of the violence problem have practical implications. From a cultural perspective, a 'one size fits all' strategy for all Israeli schools is unlikely to improve different ethnic groups' perceptions of an elementary school violence problem. Culture-based strategies may be needed to match the students' ethnic backgrounds and cultural norms. Two slightly separate culturally-based strategies may be needed if Israeli elementary schools want to improve student perceptions of a violence problem. For Jewish students, strategies built around the reduction of peer victimization, the improvement of school climate, and the reduction of risky peer-group behaviours are likely to improve their views of their school's violence problem. For Arab students, strategies that focus on the reduction of victimization by teachers and risky peer-group behaviours hold the greatest promise for improving their ratings of their school's violence problem.

The empirical evidence (from this study along with Astor *et al.*, 2002, and Benbenishty *et al.*, 2002) suggests that these different cultural strategies might be applicable to elementary school settings, but not to junior high and high schools. Astor *et al.* (2002) and Benbenishty *et al.* (2002) provide evidence showing that in secondary school settings variables effecting students' judgment of the school are remarkably similar for both ethnic groups. For Arab and Jewish secondary school students, the growing awareness of risky peer-group behaviours become the dominant factor associated with students' judgment of their schools' violence problems. In secondary schools, strategies designed to improve students' perceptions of violence could focus on similar school organizational variables in Arab and Jewish secondary schools.

Recommendations for future studies: adding more layers of context

In this inquiry we focused on the students' perspective. Future studies should attempt to gain the perspectives of school staff and students within the same schools. It is plausible that teachers', principals', and students' feelings of school safety are interrelated. To date, a multivariate theoretical model that includes the multiple social layers of the school (e.g. teachers, principals, and students) has not been constructed.

[5] *Astor et al. (2002) and Benbenishty et al. (2002) report that in Jewish secondary schools, the same structural model tested in this elementary school study accounts for a much larger proportion of the variance (41% and 46% for junior high and high schools, respectively), for judging their schools violence problem. However, in Arab secondary schools the variance explained by the theoretical model remains modest and similar to that found for in elementary schools (14% and 17% for junior high and high schools, respectively). Overall, this difference between Jews and Arabs on judging the extent of the problem in secondary schools could be interpreted in several ways. There may be other unmeasured school variables that account for Arab students' categorization of their schools. Alternatively, as students grow older, variables outside the school such as the family and community could be more salient in Arab students' judgments of their schools' violence problems.*

Future research on the relationship between the staffs' and students' perspectives on school violence would most likely improve the overall model presented in this study.

This study also has several limitations that could be addressed by future school researchers. For the purposes of our study, the survey items relating to students' non-attendance of school due to fear and their assessment of the violence problem presented two outcomes that had great relevance. Future studies should consider finding items that represent other subjective dependent variables. Subjective judgments are often quite complex. Because we do not understand completely how elementary school students make subjective judgments about school settings, combining seemingly similar items could result in uninterpretable findings.

For example, it is common for students to be asked in surveys to rate their school as being 'safe' or 'unsafe'. However, these seemingly similar items may be influenced by very different school-related variables. Student perceptions of a safe school may be only tangentially related to factors that contribute to a perception that the school is unsafe. Thus, combining these items in a single subjective factor may be problematic from a conceptual point of view.

This study's findings suggest that the social dynamics within schools independently contribute towards children's fear and judgments of their school context. There is ample research suggesting that factors external to the school environment may also effect children's perceptions related to school victimization (e.g. Garbarino *et al.*, 1992; Kingery, Coggeshall, & Alford, 1998; Lorion, 1998; Meyer & Astor, 2002; Olweus, 1999b). In all likelihood, external factors also contribute strongly to children's assessments of school-based judgments. Future research should include more contextual variables such as the community, family, and neighbourhood to our model. Such studies should explore the impact of contextual issues such as school size, community/familial poverty, or crime rates (see Lee, 2000; Sampson, Raudenbush, & Earls, 1997, for a discussion of this type of contexutalized research). Future studies should attempt to collect longitudinal data. Because our sample is cross-sectional, we cannot make causal inferences about how dependent variables predicted the dependent variables. Hence, the overall findings should be replicated and interpreted with caution until such a study is conducted. Future studies should attempt to address this issue by sampling at different points over time.

Acknowledgements

The authors would like to thank the many students, principals, teachers who generously gave their time and support to make this study possible. We also thank our families for being so supportive during the years it took to conduct this study. The study was funded by a grant from the Israeli Ministry of Education to the first, second and fourth authors. Portions of this study were funded through a National Academy of Education/Spencer Fellowship, and a Fulbright Senior Scholar Fellowship to the first author. In addition, the analyses presented in this manuscript were funded by a grant from the Spencer Foundation to the first and second authors.

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Received 18 September 2002; revised version received 8 October 2004