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# School Violence in Taiwan: Examining How Western Risk Factors Predict School Violence in an Asian Culture

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#### **Abstract**

The current study explores whether theorized risk factors in Western countries can be used to predict school violence perpetration in an Asian cultural context. The study examines the associations between risk factors and school violence perpetration in Taiwan. Data were obtained from a nationally representative sample of 14,022 students from elementary to high school (Grades 4 to 12) across Taiwan. The analysis reported in this study focuses on only junior high school students (Grades 7 to 9, N = 3,058). The results of a regression analysis show that gender, age, direct victimization, witness victimization, alcohol use, smoking, anger traits, lack of impulse control, attitudes toward violence, poor quality of student—teacher relationships, and involvement with at-risk peers were significantly associated with school violence in Taiwan. The overall results suggest strong similarities in risk factors found in the West and school violence in Taiwan. They therefore point toward using similar strategies developed in the West to enhance students' positive experiences in their personal, family, and school lives to decrease school violence.

#### **Keywords**

school violence, risk factors, bullying, Taiwan, cross-culture

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#### Introduction

Violence in schools has been a major social problem affecting students' personal, family, and social well-being around the world (Benbenishty & Astor, 2005). Though school violence perpetration occurs at all ages, a growing body of research indicates it is most common in junior high schools (Grades 7 to 9; Chen & Astor, 2009a, 2009b; Nansel et al., 2001; Pepler et al., 2006; Wei & Chen, 2009). Thus far, the large majority of studies on school violence has focused on risk factors in North American or European countries, whereas large-scale representative data on risk factors in Asia remain limited. Furthermore, there is almost no evidence showing that findings on risk factors associated from Western studies are applicable to Asian or other cultures. There is empirical evidence showing that significant differences exist between East and West in beliefs, perceptions, and worldviews (Nisbett, 2003). Thus, this project represents an exploratory inquiry of the first nationally representative study of school violence issues in Taiwan as a step toward testing the applicability of risk factors associated with school violence studies across cultures.

Nisbett (2003) argues that thought pattern diversity among Asian cultures represents indigenous blends of three philosophies: Taoism, Confucianism, and Buddhism. If true, perceptions surrounding school violence between and within cultures may serve as key variables for determining universalities and distinct patterns among countries. For example, Griffin and Gross (2004) report that most studies on school bullying are analyzed based on self-reported information that reflects self-perceptions of the respondents' situations within their respective cultures. If individuals from various cultures think differently about their specific contexts, such perceptions can color their views of school violence and risk factors.

In contrast, Turiel (2002) argues that individuals express their cultural orientations in accordance with specific situations, with social actions and interactions influencing the development of social, moral, and personal judgments. He suggests that these judgments interact in complex ways to structure people's interpretations and to influence their actions. This can influence the degree of homogeneous or cohesive orientation within a culture. Therefore, different cultural values may not consistently influence relationships between various factors and school violence. Accordingly, a small number of researchers (e.g., Schwartz, Farver, Chang, & Lee-Shin, 2002) suggested similarities in relationships between risk factors and school victimization in the East and West.

An examination of cultural similarities or differences between risk factors and school violence is required before assuming that a specific theory is valid

across different cultures or societies. One way to approach this issue is to examine how patterns and theory developed in Western studies fit data patterns for school violence in Asia or other regions of interest (Przeworski & Teune, 1970; Van de Vijver & Leung, 1997). Observed differences in patterns of variables or risk factors may indicate that different mechanisms are at work in each culture. Observed similarities may mean that certain cultural differences may not influence relationship patterns (Przeworski & Teune, 1970). If similarities in patterns between different cultures are found, then policy makers, practitioners, and researchers will have some empirical evidence they need to justify exploring similar types of interventions across different cultures or countries. Otherwise, new theories predicting risk-factor relationship patterns need to be developed specific to each culture.

Taiwan is an example of Asian countries in which long-standing cultural values and outside influences must be considered simultaneously when examining relationships between risk factors and school violence. It has experienced democratization, rapid industrialization and urbanization, a growing population of immigrants from other Asian countries, and an expanding economy over the past four decades. Yet Taiwanese are still guided by values stemming from a blend of Confucianism, Taoism, and Buddhism. Although school violence and bullying issues have been major public concerns for many years, Taiwan has never been part of any large-scale cross-national studies on these topics (e.g., Akiba, LeTendre, Baker, & Goesling, 2002).

#### Definition of School Violence

In this study, "school violence" will be used to mean in-school student behavior intended to harm other students or to cause damage to other students' belongings or school property. The definition includes physical and verbal violence, threatening behavior, and property damage (Astor, Benbenishty, Pitner, & Zeira, 2004; Benbenishty & Astor, 2005).

## Western and Eastern Studies on Factors Associated With School Violence Perpetration

#### Person-Oriented Variables

Gender and ages. There is considerable evidence indicating that boys engage in more aggressive behavior than girls (e.g., Baldry, 2003; Benbenishty & Astor, 2005) and that aggressive behavior declines with increasing age in junior high schools (Pateraki & Houndoumadi, 2001). The same differences are also true in Asian countries (for gender differences, see Chen,

2007; Chen & Astor, 2008, 2009a, 2009b; and Zhang, Gu, Wang, Wang, & Jones, 2000; for decline with age, see Hong & Huang, 2002 and Hu & Lin, 2001).

Aggressive attitudes, impulsive control, and trait anger. Western studies on school violence clearly indicate that students who endorse higher aggressive attitudes are more likely to engage in violent behavior in school (McConville & Cornell, 2003). Lack of impulse control, poor anger traits, impatience, and tendencies toward moodiness are also common among children who engage in school violence (Byrne, 1994; Connolly & O'Moore, 2003; Slee & Rigby, 1993).

Direct and witness victimization and substance use. Exposure to various kinds of violence (in the form of direct involvement or as witnesses) is related to the development of aggressive behavior in school (Baldry, 2003; Flannery, Wester, & Singer, 2004). Tobacco, alcohol, and drug abuse is also associated with school violence perpetration (Berthhold & Hoover, 2000; Furlong, Casas, Corral, Chung, & Bates, 1997).

A few nonrepresentative studies in Taiwan or other Asian countries have shown that school violence perpetration was related to students' aggressive attitudes, lack of impulse control, poor anger traits, victimization (Ando, Asakura, & Simons-Morton, 2005; Hu & Lin, 2001), and substance abuse (Hu & Lin, 2001; Zhang, Welte, Wieczorek, & Messner, 2000). As these studies are convenience samples, it remains unclear how generalizable these findings are for Asian culture contexts such as Taiwan.

#### Family-Oriented Variables

Western researchers have observed that family socioeconomic status (family SES; Wolke, Woods, Stanford, & Schulz, 2001), family conflict (Stevens, Bourdeaudhuij, & Oost, 2002), and level of parental monitoring (Baldry & Farrington, 2000; Rigby, 1993, 1994) are all associated with school violence. In Asian societies, Nisbett (2003) noted that Confucianism stresses family cohesion and harmony and strongly discourages family conflict. Furthermore, Asian societies support close parental monitoring and acts of stringent discipline as means of preventing or punishing negative behaviors on the part of children (Hu & Lin, 2001). This brings into question the potential of family conflict as a factor in school violence in that part of the world.

#### School-Oriented Variables

Student-teacher relationship. Results from Western studies suggest that quality of student-teacher interactions might be a factor in school violence

(Junger-Tas, 1999; Olweus, 1999). Teachers are highly valued in traditional Asian societies; even now, Taiwanese teachers enjoy a higher social status compared to their Western counterparts (Fwu & Wang, 2002). Schoenhals (1994) describes the position and role of teachers in Asian culture as parallel to those of fathers and mothers. Inharmonious relationships between teachers and students may result in the latter feeling frustrated or experiencing low self-worth, both of which can lead to student involvement in school violence (Wong, 2004; Yoneyama & Naito, 2003).

Involvement with at-risk peers. Western study results also suggest an association between friendship characteristics and bullying (Huttunen, Salmivalli, & Lagerspetz, 1996), which raises the issue of the Western emphasis on individuality versus the collectivist orientation of Asian culture (Chen, 2000; Triandis, 1995). According to collectivism, individual interests are subordinate to group norms, and therefore individual behaviors that threaten successful group functioning are discouraged (Triandis, 1995). Accordingly, Asian children are perhaps more likely to be influenced by their peers and to mimic their behaviors, including violence. Peer quality may be an important factor influencing violence among Asian students. A few nonrepresentative studies have observed and reported on this association in Taiwan or other Asian countries (Ando et al., 2005; Hu & Lin, 2001). The current study examines the applicability of these previous findings in a representative sample in an Asian culture context.

School engagement and academic performance. Western studies indicated a connection between low levels of school engagement and behavioral problems such as bullying (Natvig, Albrektsen, & Qvarnstrom, 2001), delinquency (O'Donnell, Hawkins, & Abbott, 1995), and antisocial behavior (Fraser, 1996). A few nonrepresentative studies in Asia have also reported the association between poor school engagement and school violence (Ando et al., 2005; Hu & Lin, 2001). Violent behaviors in school can also be viewed as reactions to frustration and failure over academic performance (Olweus, 1978, 1983). Nisbett (2003) noted that Asian students are more reactive to poor academic performance than Western students. This may be due to traditional values that include a stronger Asian emphasis on academic achievement (Ho, 1986). This climate that stresses academic achievement may influence students to become violent if they perceive themselves negatively due to poor academic achievement (Wu & Tseng, 1985).

#### The Aims of the Study

The primary purpose of this study is to test if multiple risk factors found to be predictive of school violence in Western countries are also found to be related

to school violence in a Taiwanese representative sample. A secondary purpose is to analyze relationships between risk factors and school violence perpetration in Taiwan.

Analyses here are exploratory in that we do not test specific hypotheses. The collected data were used to explore the associations between school violence and demographic variables, substance use, victimization, personal traits, and family-oriented and school-oriented variables.

#### Method

The secondary data used in this study were part of a large-scale project of "Prevention and Control of School Violence in Taiwan" (Wu, Lee, Yin, & Hu, 2000). The survey was conducted throughout Taiwan among more than 14,000 students from elementary schools (Grades 4 to 6), junior high schools (Grades 7 to 9), and vocational and academic high schools (Grades 10 to 12). Students were given a structured questionnaire in classrooms under the guidance of professionally trained survey monitors. Respondents were assured of anonymity and were encouraged to respond truthfully. Participants were free to withdraw from the study at any time and for any reasons. This study was supported by Taiwan's National Science Council (NSC). The questionnaires, procedures, informed consent forms, and other ethical concerns were reviewed and supervised by NSC.

This sample was designed to represent all students from 4th to 12th grades in Taiwan. The students' response rate was above 98%. The probability sampling method was a two-stage cluster sample. The strata were northern/central/southern/eastern, urban/rural, and elementary/junior/technical/academic. In this article, only junior high school students were selected for this study. In the first stage, schools were randomly selected from the sampling frame according to those appropriate strata. In the next stage, two classes were randomly selected according to each grade in selected schools. The sample included all students in the selected classes (Wu et al., 2000).

This study examined 3,058 students from 16 junior high schools. Around half of the students were boys (48.2%), 49.5% were girls, and 2.3% did not indicate gender; the grade level distribution was as follows: 30.8% of the students were in 7th grade, 33.9% in 8th grade, 35.0% in 9th grade, and 0.2% did not indicate grade.

#### Measures

The questionnaire was developed on the basis of current school violence studies and theories from both Taiwan and Western countries and validated by Wu

and colleagues (2000). It included more than 150 items in eight domains regarding students' basic demographic background and other information about their personal, family, and school experience. Students took approximately 30 min to complete the questionnaires. Before this survey was conducted, the Mandarin Chinese questionnaire was adjusted and adapted based on two pilot studies conducted in the Tainan metropolitan areas in Taiwan (Wu et al., 2000). Additional information on the measures is available on request from the corresponding author. Internal consistency of the scores of the scales was calculated, using Cronbach's alpha, based on the data from this study.

#### Dependent Variable

School violence ( $\alpha = .80$ ). This domain involved asking students to indicate how many times they perpetrated violent behavior in school during the past year. The variables in this domain were coded into "never" and "at least once." This domain included three items in the subscale of physical violence, two in vandalism, and five in verbal violence/threat/harassment. These items, for example, include have you "beaten or kicked other students to hurt him/her/them," "intentionally destroyed or broken school public belongings," and "cursed or insulted other students." This scale consisted of 10 items and was a sum of all the items.

#### Independent Variables

Gender. In this variable, students were asked to check off male or female. Grade levels. This data did not have information about students' age. In this study, students' age was measured in terms of their grade years. It ranged from 7th to 9th grades (from ages 12 to 15 years).

Witness victimization ( $\alpha = .82$ ). In this scale, students were asked whether they had observed violent events in their life in the past year. These items, for example, include, "Have you seen anyone verbally threatened by others?"; "Have you seen anyone beaten by others?" Items were rated on a scale of 1 = never, 2 = sometimes, 3 = often, and  $4 = almost\ every\ day$ . This scale consisted of seven items and was a sum of all the items.

Direct victimization ( $\alpha = .86$ ). In this scale, students were asked to indicate whether they had experienced direct victimization in the past year. These items, for example, include, "Have you been beaten or kicked by others?"; "Have you been verbally threatened by others?" Items were rated on a scale of 1 = never, 2 = sometimes, 3 = often, and  $4 = almost\ every\ day$ . This scale consisted of seven items and was a sum of all the items.

Smoking. In this variable, students were asked how many cigarettes, on average, they smoke in a week. This variable in the student questionnaire was rated on a scale of 1 = never, 2 = one to five, 3 = six to ten, and 4 = above ten. This variable was recoded into 0 = never and 1 = at least once before we received these secondary data.

Alcohol use. In this variable, students were asked how many times, on average, they consumed alcohol each month in the past half year. Items were rated on a scale of 1 = never,  $2 = once\ a\ month$ ,  $3 = twice\ a\ month$ , and  $4 = over\ twice\ a\ month$ . This variable was recoded into 0 = never and  $1 = at\ least\ once$  before we received these secondary data.

Positive attitudes toward violence ( $\alpha$  = .87). In this scale, students were asked the level of their attitude of violence. These statements, for example, included, "Violence is the best way to resolve any problem." Items were rated on a scale from 1 = strongly disagree to 4 = strongly agree. This scale consisted of the sum of 10 items.

Trait anger ( $\alpha = .86$ ). In this scale, students were asked questions to measure students' anger temperament. These questions, for example, include, "I am easily agitated"; "I lose my temper easily." Items were rated on a scale from  $1 = strongly\ disagree$  to  $4 = strongly\ agree$ . This scale consisted of the sum of 10 items.

Lack of impulse control ( $\alpha = .80$ ). In this scale, the students' impulsive control ability was measured. These items, for example, included, "When I feel angry, no one can control me"; "I often make mistakes due to uncontrolled anger." Items were rated on a scale from 1 = strongly disagree to 4 = strongly agree. This scale consisted of six items and was a sum of all the items.

Parental monitoring ( $\alpha$  = .77 in father part;  $\alpha$  = .76 in mother part). In this scale, respondents were asked about each of their parents' monitoring toward them in daily life. Examples include the following: "If I am not at home, my father (or father figure) will know where I am"; "My father (or father figure) knows my schedules." The same questions were also asked about the mother or mother figure. Items were rated on a scale from 1 = strongly disagree to 4 = strongly agree. This scale consisted of 10 items and was the sum of the father and mother parts.

Family conflict ( $\alpha = .80$ ). In this scale, students were asked about their family climate. Examples include the following: "There are a lot of quarrels or fights between my parents"; "There are a lot of quarrels or fights between my siblings." Items were rated on a scale from 1 = strongly disagree to 4 = strongly agree. This scale consisted of five items and was the sum of all the items.

Family SES ( $\alpha = .71$ ). Family SES was measured by following three subscales:

- 1. *Parents' Job Status*: In this subscale, students were asked about their parents' current job status. All current job titles in Taiwan were categorized and ordered into five categories, based on current occupational reputation in Taiwanese society (Wu et al., 2000). To facilitate the student's answers, a list of job titles was provided in each category, and students could easily find their parents' job title and then check off the appropriate category. Items were rated on a scale from 1 = lowest status to 5 = highest status.
- 2. Parents' Education Status: In this subscale, students were asked about their parents' highest level of education. Items were rated on a scale of 1 = junior high school degree or under; 2 = high school degree; 3 = vocational/technical college degree; 4 = bachelor degree; and 5 = master or doctoral degree or above.
- 3. Students' Pocket Money: In this variable, students were asked how much pocket money on average they received per week from their parents/family. Parents provide students pocket money for their children's day-to-day expenses and could be an indicator of family economic status. That is, poorer families may not have ability to provide students with any pocket money. The ratings of this item are 1 = no money; 2 = below 100 NTD; 3 = 100-299 NTD; 4 = 300-499 NTD; 5 = 500-999 NTD; 6 = 1,000-1,999 NTD; and 7 = above 2000 NTD. It was recoded into "have" and "did not have" pocket money before we received these secondary data.

The variable of pocket money could be one of the important indicators for family SES because students from low-income families may not receive pocket money from their parents. In fact, studies in Taiwan indicated strong positive association between the variable of pocket money and family SES (e.g., Hwu & Li, 2004). In addition, the variable of pocket money is often included to collect information about family SES in Taiwan (e.g., Wu et al., 2000). Thus, we treat the scale of family SES in this study as a sum of these three subscales. The Pearson correlations between parental education status and parental job status is .49 (p = .00), between parental education status and pocket money is .03 (p = .17), and between parental job status and pocket money is .10 (p = .00).

Poor student-teacher relationship ( $\alpha = .84$ ). This scale included six items about whether the respondents experience a poor relationship between teachers and themselves. Examples included the following: "My teacher often punishes me for no reason"; "Even though I tell the truth, my teacher still distrusts me." Items were rated on a scale from  $1 = strongly \ disagree$  to  $4 = strongly \ agree$ . This scale was a sum of these six items.

Low level of school engagement ( $\alpha = .73$ ). In this scale, students were asked questions to measure students' level of school engagement. These questions, for example, included, "I feel that my school is boring"; "I often doze off in class or skip class." Items were rated on a scale from 1 = strongly disagree to 4 = strongly agree. This scale consisted of five items and was a sum of all the items.

Involvement with at-risk peers ( $\alpha$  = .74). In this subscale, students were asked questions to determine the quality of students' group friends. These questions, for example, included, "I have friends who are school gang members"; "I have friends who dropped out due to problem behavior in school." Items were rated on a scale from 1 = strongly disagree to 4 = strongly agree. This scale consisted of six items.

**Poor academic performance.** In this variable, students were asked questions to know their school grade point average (GPA) in the last semester. The ratings of this item are 1 = A; 2 = B; 3 = C; 4 = D; and 5 = E. Due to skewed distribution, it is recoded into "above average" and "below average." Above average includes a GPA that is equal to A and B, and below average includes a GPA that is equal to C, D, and C.

#### Analysis Plan

First, descriptive statistics were first conducted to determine the basic distribution of interesting variables. Each item of school violence was examined by gender to explore the prevalence of each violent behavior among boys and girls. Second, the correlations between all predictors were calculated. Finally, to determine the association of the relationships between various risk factors and school violence, simultaneous multiple regression analysis was employed in which school violence scores were entered as continuous. As previous studies have treated criterion variable (i.e., school violence) as perpetrator or nonperpetrator and treated all predictors (i.e., risk factors) as dichotomous, an analysis was conducted by logistic regression (Pereira, Mendonca, Neto, Valente, & Smith, 2004; Wu et al., 2000). The results of those analyses may reduce precision in prediction. Treating the variable of school violence as continuous in a regression model can help with predicting more precisely (Blalock, 1979; Bosworth, Espelage, & Simon, 1999; Howell, 1992). The main purpose of this study is to explore if Western risk factors of school violence could predict school violence in an Asian culture. In this study, we do not intend to explore how much each level or hierarchical variables add to the overall prediction. Thus, it logically follows to insert all the predictors in one model to predict our dependent variable. Collinearly, statistics showed appropriate tolerance levels for each predictor, and the residuals showed normality, linearity, and homoscedascity. All analyses were performed with SPSS 13.0. The method of listwise deletion was employed to treat missing values.

Because of the large sample size in this study, statistical significance was set at  $\alpha < .01$ .

#### **Results**

Table 1 presents descriptive statistics (mean and standard deviation) broken down by grade and gender for the study variables.

Table 2 presents data on the frequency and prevalence of certain types of violent behavior by gender. Overall, 68.0% of the surveyed students reported that they were involved as perpetrators in at least one type of violent behavior during the preceding year. Male students reported being involved in significantly larger numbers of violent incidents compared with female students.

#### Regression Analysis

Correlations between all study variables are shown in Table 3. Results indicated that no significant correlations were found between school violence and grade levels as well as between school violence and family SES. Other relationships between predictor variables and school violence were in the expected prediction. The results from a regression analysis are shown in Table 4. When entered into the model at the same time, the combined predictors accounted for 39.2% of the total variance in school violence, F(16, 2177) = 85.49, p < .001.

Regression model results also indicate that student respondents who were male (p=.00), younger (p=.00), drank alcohol (p=.00) and/or smoked tobacco (p=.00) were more likely to engage in violent behavior in school. Significant associations were also noted between school violence and direct victimization (p=.00), witness victimization (p=.00), anger traits (p=.00), positive attitude toward violence (p=.00) and lack of control over impulsivity (p=.00). Positive associations with school violence were also noted for poor relationships with teachers (p=.00) and involvement in at-risk peers (p=.00) but not for family conflict (p=.16), family SES (p=.31), low level of parental monitoring (p=.03), low level of school engagement (p=.02), or academic performance (p=.33). In this model, involvement in at-risk peers  $(\beta=.18)$  and gender  $(\beta=.16)$  were identified as the best predictors of school violence.

#### **Discussion**

The present study used the first large-scale national probability sample in Taiwan examining relationships between risk factors and school violence in

Table 1. Means and Standard Deviations of Each Scale by Grade/Age and Gender

	Grade 7	de 7	Gra	Grade 8	Gra	Grade 9
	Male	Female	Male	Female	Male	Female
School violence <sup>a</sup>	2.57 (2.32)	1.49 (1.91)	2.99 (2.57)	1.81 (2.05)	3.11 (2.69)	1.39 (1.79)
Person-oriented variables Witness victimization <sup>b</sup>	1.05 (1.86)	0.87 (1.50)	1.23 (1.70)	1.29 (1.79)	1.29 (1.85)	1.06 (1.56)
Direct victimization <sup>b</sup>	1.36 (1.91)	0.85 (1.52)	1.14 (1.66)	0.91 (1.58)	1.40 (1.95)	0.61 (1.24)
Smoking	0.11 (0.31)	0.03 (0.18)	0.20 (0.40)	0.13 (0.33)	0.25 (0.43)	0.09 (0.29)
Alcohol use <sup>c</sup>	0.17 (0.38)	0.10 (0.30)	0.21 (0.40)	0.15 (0.36)	0.28 (0.45)	0.14 (0.35)
Positive attitude toward violence <sup>d</sup>	17.27 (5.89)	14.43 (4.33)	19.06 (6.79)	15.83 (5.30)	19.59 (6.39)	15.31 (4.87)
Trait anger <sup>d</sup>	21.58 (6.66)	21.00 (6.06)	22.39 (6.69)	22.16 (6.56)	23.01 (6.55)	21.27 (6.10)
Lack of impulse control <sup>d</sup>	11.78 (3.88)	11.50 (3.69)	12.56 (4.30)	12.43 (4.30)	13.21 (4.41)	12.02 (3.99)
Family-oriented variables						
Parental monitoring <sup>e</sup>	30.07 (5.33)	30.36 (5.27)	29.26 (5.31)	29.97 (5.90)	28.50 (5.39)	29.10 (5.63)
Family conflict <sup>d</sup>	9.42 (3.28)	9.83 (3.18)	10.20 (3.37)	10.52 (3.74)	10.37 (3.55)	10.57 (3.70)
Family SES <sup>f</sup>	7.29 (3.10)	7.32 (3.00)	7.35 (2.90)	7.14 (2.85)	7.42 (2.88)	7.14 (2.89)
School-oriented variables						
Poor student–teacher relationship <sup>d</sup>	10.73 (3.89)	10.10 (3.60)	11.77 (4.25)	11.24 (4.03)	12.27 (4.13)	11.01 (3.68)
Low level of school engagement <sup>d</sup>	9.16 (2.84)	8.12 (2.30)	9.88 (3.26)	8.99 (2.73)	10.68 (3.19)	9.30 (2.84)
Involvement with at-risk peers <sup>d</sup>	9.25 (3.67)	8.34 (2.94)	9.89 (4.22)	9.14 (3.22)	10.56 (4.09)	8.93 (2.92)
Poor academic performance <sup>g</sup>	0.64 (0.48)	0.44 (0.50)	0.55 (0.50)	0.42 (0.49)	0.59 (0.49)	0.49 (0.50)

Note: Standard deviations are shown in parenthesis.

a. On a scale: 0 = never, 1 = at least once in the past year.

b. On a scale: 0 = never/sometimes, 1 = often or always.

c. On a scale: 0 = never, 1 = at least once.

e. Sum of two subscales: paternal and maternal monitoring on a scale from 1 = strongly disagree to 4 = strongly agree. d. On a scale: I = strongly disagree to 4 = strongly agree.

f. Sum of three subscales: parents' job status on a scale from 1 = lowest status to 5 = highest status for each parent; parents' education status on a scale from 1 = junior high school to 5 = master or above; students' pocket money on a scale from 0 = do not have to 1 = have. g. On a scale: 0 = above average (Grade A and B), 1 = below average (Grade C, D, and E).

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Table 2. Prevalence of Perp	petrating Violent	Behavior and	Gender Cor	nparison

Types of Violent Behavior in School	Overall ( <i>N</i> = 3,058)	Male (N = 1,475)	Female (N = 1,514)	Chi-Square Value
Overall violence	68.0	77.9	58.5	129.9*
Physical				
Beating or kicking (one to one)	20.1	34.1	6.5	355.0*
Beating or kicking (group to one)	18.7	27.8	9.8	158.4*
Use of objects/instruments to hurt	13.4	17.7	9.3	45.1*
Verbal/threat				
Curse or verbally insult	53.7	61.0	46.5	63.3*
Teasing or mocking	36.7	46. I	27.5	111.6*
Coerce student(s) into buying things by force	16.7	22.0	11.4	60.5*
Verbally threaten or humiliate	16.1	20.7	11.5	47.5*
Extort or blackmail	3.3	5.5	1.3	41.5*
Vandalism				
Destroy/damage personal belongings	21.9	27.3	16.7	49.1*
Destroy/damage school's public belongings	21.1	27.1	15.3	62.5*

Note: Comparisons are for male and female students.

an Asian cultural context. Comprehensive risk factors of school violence perpetration based on Western theories and empirical studies were tested to determine if they are applicable to an Asian context. To make more precise predictions, school violence was treated as a continuous rather than dichotomous variable (Blalock, 1979; Bosworth et al., 1999; Howell, 1992). The results indicate more similarities than differences in relationships between risk factors and school violence across cultures.

More than two thirds (68.0%) of the junior high school students in the sample reported that they had participated at least one time in some type of violent behavior during the preceding 12 months. This study indicates that cursing or verbally insulting are the most common violent acts among students in Taiwanese junior high schools. In comparison, data from a large-scale international study on Health Behavior in School-aged Children (HBSC; Craig & Harel, 2004) indicate percentages of students who bully others in 30

 $<sup>100. &</sup>gt; q^*$ 

Table 3. Correlations Between Variables

		-	7	1 2 3	4	2	9	7	œ	6	0	=	12	<u>n</u>	4	12	91	1
-	School violence		.02	.27**	78**		l				.43**	22**	*/-	.02	30*	39₩	.45**	* 0I:
7	Grade levels			*90 <sup>-</sup>	- **90:	02				.05	**60°	I0*	<u></u> 80∏.	04	.12%	<u>*</u> •	₩60:	.03
w.	Gender			I							9.	03	*90 <sup>-</sup>	.03	∞,80.		.1 <b>2</b> *	<u>*</u>
4.	Witness										.23**	08 <sup>₩</sup>	.13*	₩80.	.1 <del>7</del> *	<u></u> ₩91:	.23**	04
	victimization																	
5.	Direct victimization					1	.08%	* =			.27**	<u>*</u>	.2I*	6.	<u>**</u> /:	<u></u> ₩9 .	*	*20.
9	Smoking						1		.28**		.30**	20**	.12**	08**	* <del>9</del> 1:	.34**	.36**	<b>₹9</b> 1.
۲.	Alcohol use									.24**	.28₩	17**	.12**	02	<u>*</u>	.30**	.36 <sup>*</sup>	<u>*</u>
œί	Positive attitude								1		.59**	24**	<u>*</u> 6∏.	03	.33**	.43**	.50**	<u>₩</u>
	toward violence																	
6	Trait anger									1	, <del>*</del> *	21**		0.	.29**	<u>*</u>	.3 <b>6</b> *	*90:
<u>o</u>											1	29**	33*	01	.34 <sup>*</sup>	<b>%6</b> ₹.	.45 <b>*</b> *	%80.
	control																	
Ξ												1	29**		23**	35**	02**	<u>-</u> 8
12	Family conflict												1	*90	<u>*</u>	.35*	<u>*</u> /	.07¥
3															00	04	01	20%
4.	Poor student-															₩64.	.29₩	<u>*</u>
	teacher relationship																	
15.	Low level of																₩4.	.20₩
	school engagement																	
<u> </u>																	I	<b></b> ‱60:
	at-risk peers																	
7	Poor academic																	
	performance																	

Note: Gender is coded as 0 = female, 1 = male; smoking is coded as 0 = never, 1 = at least once; alcohol use is coded as 0 = never, 1 = at least once; poor academic performance is coded as 0 = above average, 1 = below average. \*p < .01. \*\*p < .001.

Table 4. Summary of Simultaneous Multiple Regression Analysis for Variables
Predicting School Violence Perpetration

		М	odel	
Measures	В	SE(b)	β	t
Intercept	10	.43		-2.40
Grade levels	14	.05	05	-2.89*
Gender	.74	.08	.16	8.89*
Witness victimization	.12	.03	.09	4.66*
Direct victimization	.16	.03	.11	5.86*
Smoking	.72	.14	.10	5.31*
Alcohol use	.40	.12	.06	3.37*
Positive attitude toward violence	.04	.01	.11	4.41*
Trait anger	.02	.01	.08	2.85*
Lack of impulse control	.05	.02	.08	2.94*
Parental monitoring	02	.01	04	-2.18
Family conflict	02	.01	03	-1.41
Family SES	.01	.01	.02	1.03
Poor student-teacher relationship	.04	.01	.07	3.65*
Low level of school engagement	.04	.02	.05	2.33
Involvement with at-risk peers	.11	.01	.18	8.14*
Poor academic performance	.08	.08	02	-0.97

Note:  $F(16, 2177) = 85.49, R^2 = .392$ 

participating countries ranging from 9% to 54% for 11-year-olds, 17% to 71% for 13-year-olds, and 19% to 73% for 15-year-olds. Although the methodologies used to measure student violence in school differed between the HBSC and the present study (i.e., HBSC study only examined bullying behavior, and the present study examined overall violent behavior in schools), the data still indicate a relatively high rate of violence among Taiwanese junior high school students compared to many other countries.

Consistent with findings from Western studies, the present results also show that the participating male Taiwanese students engaged in violent behavior at a significantly higher rate than their female classmates, and that prevalence of violent behavior declined with increasing age/grade. Furthermore, the respondents who drank, smoked, experienced direct and witness victimization, and possessed the negative personal traits of positive attitude toward violence, lack of impulsivity control, and anger were more likely to become involved in school violence. Respondents who reported poorer student—teacher relationships and friendships with high-risk peers committed

<sup>\*</sup>b < .01.

greater numbers of violent acts in school. According to these findings, the potential for students to engage in school violence can be mitigated by decreasing student substance abuse, involvement in direct or witnessing of victimization, and negative personal traits and increasing or improving student-teacher relationships and quality of friends/peers. Perhaps school administrators in Taiwan could consider adapting an evidence-based intervention such as the Seattle Social Development Program (Hawkins et al., 1992), which has reported effectiveness on reducing students' substance uses, negative personal traits, and school misbehaviors as well as improving students' social skills and quality of relationships with their peers and teachers (e.g., Hawkins, Von Cleve, & Catalano, 1991; O'Donnell, Hawkins, Catalano, Abbott, & Day, 1995). The programs effectiveness would still need to be tested in a Chinese context. In addition, school social workers could advocate early intervention on student violence victimization in the community level, which may prevent children's potential violent behavior later in schools (Baldry, 2003).

The study results do not indicate significant associations between school violence and family SES, family conflict, parental monitoring, school engagement, and academic performance. These specific findings conflict with those reported by Western researchers and theories suggesting that these factors exert a strong influence on school violence (Olweus, 1978, 1983). Relatively equal family income distribution in Taiwan accounts for the nonsignificant association between low family SES and school violence (Lee, 2008). A potential explanation for unsuccessful predictor of family conflict may be due to Chinese values on the choice of conflict-handling styles. For example, in comparison to Western cultures, the Asian cultures place a greater emphasis on emotional moderation when facing conflict (e.g., Tsai & Levenson, 1997). Perhaps, this kind of stronger emotional moderation influenced by Chinese cultures reduces the association between family conflict and school violence involvement. In addition, some studies suggested that the Asians are more likely than the non-Asians to be attached to conventional institutions of informal social control and their family authority figures such as parents (Jang, 2002; Le, Monfared, & Stockdale, 2005). It may explain the weak association between school violence and parental monitoring in this study.

Furthermore, many worldwide international reports indicated that school children's scholastic performance in Taiwan is generally higher as well as comparatively less variation between students than those in most Western countries (e.g., Organization for Economic Cooperation and Development, 2007). It may explain why academic performance fails to predict school violence in Taiwan. Recently, Jang (2002) found that the lower rates of

delinquency among the Asian American adolescents, compared with the non-Asian Americans, were attributed to a higher level of school engagement among the Asian Americans. Perhaps a relatively higher level of school engagement in Asian cultures can explain why there were no associations between school engagement and school violence in this study.

Of all the variables, friendships with high-risk peers and gender were identified as the best predictors of school violence. To maximize their effectiveness, nationwide interventions designed to reduce school violence perpetration should specifically target male students and involvement with at-risk peers.

Results from a regression analysis show that most of the same relationships between risk factors and school violence reported in studies from Western countries are also found in Asian cultural contexts, especially in Taiwan. However, caution is required when interpreting these cross-cultural findings, as most of the cited Western studies examined school violence risk factors using small or convenience samples and frequently addressed student experiences or perceptions in certain contexts (e.g., family) while ignoring others (e.g., school; see, for example, Connolly & O'Moore, 2003).

Some of the relationships between risk factors and school violence observed in the present study may have been influenced by the more comprehensive sample and numerous items available for the data analysis in this study. Many large-scale representative Western studies have less than a handful of items on school violence or bullying. Clarifying whether inconsistent results are due to sample or methodology requires more detailed contextual analysis. Future researchers should carefully consider their use of expanded research methodologies to accurately reflect differences across cultures.

At least two study limitations must be considered. The first is the cross-sectional nature of this investigation—the results cannot be used to establish cause—effect interactions. For example, whereas poor student—teacher relationships may indeed lead to increased school violence, the violent behaviors of certain students may influence their teachers' perceptions and reactions. To understand the causal relationships between variables, longitudinal designs should be conducted. Second, the self-report data and the 12-month reporting window may have resulted in students underreporting events due to poor memory or overreporting violent behavior that they assume to be commonplace (Benbenishty & Astor, 2005). Future researchers will benefit from collecting information from additional sources such as teacher or peer reports. In addition, the similarities of findings between Taiwan and Western countries suggest more commonality in patterns and risk factors associated with school violence between the East and the West. Future studies should be conducted

in other Asian countries to confirm the hypothesis that there are structural similarities in risk-factor patterns between the East and the West school violence findings.

In summary, the findings indicate more cultural similarities than differences between Asian and Western societies regarding relationships between risk factors and school violence. This may be useful information for school policy makers or clinicians interested in developing new school violence prevention and intervention strategies. The findings also indicate that gender, age, victimization, substance abuse, negative personal traits, negative student–teacher relationships, and friendships with high-risk peers all influence school violence in Taiwan. Accordingly, efforts to enhance the positive experiences of students in the contexts of their personal, family, and school lives may decrease school violence.

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