

## The Interaction between Juvenile School Fire Setting and Bullying: An Exploratory Study

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*The aim of this study is to provide school social workers with an outline of the indicators common to school fire setters regarding their experiences of bullying and victimization by bullies. A sample of juvenile fire setters (N = 379) between the ages of five and seventeen years attending a fire-setter intervention program completed a modified Peer Relations Questionnaire. The purpose of this study was to determine if there are any differences regarding bully or bully victim characteristics between juvenile fire setters who set fires at school and those who set fires in other locations. Almost a third of the sample (32.7%, n = 125) indicated that they had set a fire at school and reported a higher rate of having been bullied than non-school fire setters. Implications for school social work practices are discussed.*

**Keywords:** youth fire setters; bullying; school fire setters; juvenile arson; youth arson

Juvenile bullying presents a significant threat to the health and safety of children in the United States (Espelage & Swearer, 2003). Bullying in schools is a phenomenon that occurs across many countries and cultures, although research on the prevalence and impact of bullying has

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primarily been conducted in Europe and Australia. Bullying research began in Norway when Dan Olweus (1995) conducted large-scale surveys within the schools and determined that 9 percent of students were victims of bullying. Somewhat higher percentages have been found in countries such as England (20%), Canada (20%), and Australia (10%) (Duncan, 1999). Research in the United States has shown that one in four children (25%) is bullied, and one in five children (20%) defines him- or herself as a bully (Whitted & Dupper, 2005).

Bullying has been difficult to define, and what constitutes the parameters of bullying and bully victimization varies in the literature. Bullying is often confused with roughhousing or teasing and is often not understood as a serious problem. Roughhousing and teasing, although unpleasant, are generally considered a normal part of growing up. According to Rigby (1999), bullying is defined as a repeated oppression, psychological or physical, of a less powerful person by a more powerful person or group of persons. It is important to note that bullying is somewhat different from aggression and violence due to the imbalance of power between the bully and victim (Rigby, 1999). This study explores the relationship between being a bully or being bullied and juveniles who set school fires.

The major problem of violence in schools, including mass school killings, has schools, school districts, communities, and the nation scrambling to come up with reasons and solutions to combat the issues of youths hurting and killing each other, school staff, and community members on school campuses during school hours (Osher, VanAcker, Morrison, Gable, Dwyer, & Quinn, 2004). Elam, Rose, and Gallup (1994) found that school-based crime and violence are currently ranked as the number one problem in public polls of people's attitudes toward schools. Ballantine (2001) reported that in many schools, many students face daily bullying, sexual harassment, and beatings, and some children are afraid to go to school or carry weapons to school for protection. The publicized school shootings of the last decade have caused school social workers, school district administrators, school principals, school psychologists, criminologists, fire and police departments, and the federal government to scramble in an effort to identify the root causes of school violence and devise prevention strategies in an effort to stop it (Osher et al., 2004).

Bullying has been identified as a main source of school violence. Bullying has been found to have a negative impact on both bullies and victims (Mishna, 2003; Nansel, Overpeck, Pilla, Ruan, Simons-Morton, & Scheidt, 2001; O'Connell, Pepler, & Craig, 1999; Olweus, 1994; Paetsch

& Bertrand, 1999). The distinction between bullies and victims of bullies can be confusing because some bullies are also victims. Bully/victims have been found to show different social characteristics than youths who just bully. In a study of young children, they showed more physical aggression than bullies, regardless of age, and were shown to be less cooperative and less sociable and had no playmates more frequently than children who were not bullied and bullies who were not victims (Perren & Alsaker, 2006).

The characteristics of bullies has been the topic of much research. Bullies have a positive view of aggression (Perry & Perry, 1974) and fail to feel negative about their aggression toward others (Perry & Bussey, 1977). The types of aggression have been shown to differ by the age of the bully. Younger children use more physical bullying, while older children use more verbal bullying (Perren & Alsaker, 2006). The type of aggression also differs by gender. Males are reported to use more physical and overt forms of bullying, while females use more covert forms, such as spreading rumors (Perry, Kusel, & Perry, 1988). Contrary to popular belief, bullies have been found to belong to strong social networks and to be the leaders of those social networks (Perren & Alsaker, 2006; Perry et al., 1988). Although bullies have been rated as somewhat popular by their peers, their popularity appears to decline with age (Olweus, 1994).

In the empirical literature on bullying, victims of bullying have been found to have a variety of long-term psychosocial problems. These include low self-esteem, depression (Whitted & Dupper, 2005), poor health, missing school, and relationship problems as adults (Fox & Boulton, 2003; Rigby, 1997; Slee, 1995). In 1988, Perry et al. assessed the degree to which students were bullied. They found that 10 percent of students surveyed ( $N = 165$ ) were classified as extremely victimized. Victims often report being lonely and have few if any friends (Perren & Alsaker, 2006; Perry et al., 1988; Rigby, 2000). In some cases bullying is so severe that victims of bullying bring weapons to school for protection and revenge. Some victims have been tormented to the point that they have taken their own lives (Carney & Merrell, 2001). The connection between bullying and delinquency has also been explored by researchers. Bullies and bully/victims are involved in more delinquent behavior than non-bullies (Van der Wal, 2005). This is true for both males and females (Rigby & Cox, 1996), and bullies have been found to be more delinquent than bully/victims (Van der Wal, 2005).

There has been much research on bullying, bullies, and victims of bullies, and many school prevention programs have been designed to address bullying (Espelage & Swearer, 2003; Leff, Power, & Goldstein, 2003; Mihalic, Irwin, Elliot, Fagan, & Hansen, 2001; Rigby 1996, 1997). Yet

there has been limited research on how bullying affects students who demonstrate other types of delinquency, such as setting school fires.

Juvenile fire setting is costly and destructive. Researchers have explored the characteristics of juvenile fire setting and mental health disorders such as attention deficit disorder (Rea, 2000) and conduct disorder, physical abuse, neglect (Showers & Pickrell, 1987), parent pathology and family functioning (Kazdin & Kolko, 1986), social skill problems, and antisocial behaviors (Slavkin, 2002; Stickle & Blechman, 2002). Annually, more than 300 people die as a result of fires set by juveniles (Schwartzman, Stanbaugh, & Kimball, 1998; U.S. Fire Administration/National Fire Data Center, 2008).

In 2002, there were an estimated 14,300 fires in K-12 educational institutions in the United States, causing an estimated \$103 million in property damage and 122 injuries (Federal Emergency Management Agency, 2004). There have been few deaths associated with school fires in the past fifty years, but fires at schools cause more injuries than other non-residential structure fires (Federal Emergency Management Agency, 2004). From 2002 to 2005 there were 6,560 reported fires on educational properties, \$99 million in property damage, and ninety-five injuries (Flynn, 2007). Twenty-two percent of these school property fires were intentionally set (Flynn, 2007). It is believed that students are setting the majority of the fires, but this has been difficult to substantiate (Federal Emergency Management Agency, 2004).

In an exploratory study of school fire setters, Boberg (2006) found that school fire setters tend to set school fires for the following reasons: for entertainment purposes, out of boredom, because of internal or external peer group pressure, just because they had the idea, to see something burn, for no reason at all, they were mad at a teacher or parent, and to get warm. The school fire setters in Boberg's study who reported that they set a school fire because of external or internal peer group pressure stated that bullying was part of that peer group pressure. Two students reported that if they did not set a school fire, they would be beaten up after school. Another student reported that one of her classmates was calling her names because she refused to set a garbage can in the school bathroom on fire. After her repeated refusals to set the fire, her classmate began to physically push her toward the garbage can while taunting her and calling her names. Two other students reported that they set school fires because they wanted to be considered cool and fit in with their peers.

Few research studies have been conducted regarding the connection between juvenile school fire setters and bullying (Boberg, 2006; Lewis & Yarnell, 1951; Wooden & Berkey, 1984). Lewis and Yarnell (1951) found that students who set school fires were motivated by hatred, revenge, and

the desire to destroy the school building. Wooden and Berkeley (1984) found the reasons students set school fires were revenge, spite, or a desire to disrupt classroom activities.

The goal of this article is to provide school professionals (social workers, school psychologists, teachers, and administrators) with details of the bullying-related experiences common to school fire setters. The research question of this study is: Do the bullying-related experiences of juvenile school fire setters differ from those of juveniles who set fires at non-school locations?

### Methodology

#### Participants

The participants for this study were 379 children and adolescents from a fire-setter intervention program in a large city in the Southwest. The participants were referred to the intervention program by their parents, schools, law enforcement, fire service, or counselors. Parental permission and institutional review board approval were obtained for this study. All attendees of the intervention program who had set a fire were given the questionnaire, and most completed it independently in a pen-and-paper format. The very young participants were assisted by the third author, who administered all the questionnaires.

Data were collected over a one-year period at the twice-monthly fire-setter intervention program. The sample consisted of youths ranging in age from five to seventeen years ( $M = 12.33$ ,  $SD = 3.45$ ) in first to twelfth grade ( $M = 6.98$ ,  $SD = 2.04$ ). Gender and race of the participants are displayed in table 1. Information on a single fire was available for each par-

ticipant, and no participants attended the program more than once. There were two groups of participants: those who started a fire at school (32.7%,  $n = 125$ ), and those who started a fire at a place other than school (66.5%,  $n = 254$ ). See table 2 for gender and race of the participants for school fire setters compared to non-school fire setters.

Table 2. Gender and Race of School and Non-school Fire Setters

	School fire setters ( $n = 125$ )	Non-school fire setters ( $n = 254$ )
Gender		
Male	104 (82.9%)	222 (87.2%)
Female	21 (17.1%)	32 (12.8%)
Race		
White	53 (42.4%)	124 (48.8%)
African American	3 (2.4%)	19 (7.5%)
Asian	5 (4%)	4 (1.6%)
Hispanic	41 (32.8%)	63 (24.8%)
Native American	2 (1.6%)	4 (1.6%)
Other	19 (15.2%)	38 (14.9%)
Mixed ethnicity	2 (1.6%)	2 (.8%)

#### Instrument

To assess participants' involvement in bullying at school, a modified Peer Relations Questionnaire (PRQ; Rigby & Slee, 1992) was used. The modified PRQ is a twenty-six-item measure of childhood peer relationships scored on a four-point scale. Each participant received a total score on scales consisting of items assessing the tendency to bully others or be a victim at school. Higher scores were assigned to responses that indicated greater frequencies of a bullying behavior or victimization. The PRQ was normed on more than 26,000 Australian primary and secondary students ranging in age from eight to eighteen years. These data were used to calculate the PRQ subscales' reliability estimates; strong Cronbach alpha reliability estimates were found for victim (.84), and moderate alpha reliability estimates for bully (.74) and bully/victim (.76).

#### Findings

To explore the differences between students who set fires at school and those who set fires in other places, chi-square analysis and *t*-tests were conducted. The differences between the two groups were significant, with the school fire setters reporting higher rates of victimization by bullies than non-school fire setters. Findings showed that juveniles who set

Table 1. Participants' Demographics

Gender	
Male	326 (86%)
Female	53 (14%)
Race	
White	177 (46.7%)
Hispanic	104 (27.4%)
African American	22 (5.9%)
Mixed race/other	76 (20%)
Fire location	
School	125 (33%)
Not at school	254 (67%)

fires at school did not perceive themselves as getting good grades ( $\chi^2(1, N = 379) = 8.03, p < .05$ ), whereas non-school fire setters more often saw themselves as getting good grades. School fire setters reported being picked on ( $\chi^2(8, N = 279) = 23.07, p < .01$ ) and made fun of ( $\chi^2(8, N = 379) = 130.93, p < .01$ ) more often than did non-school fire setters. School fire setters reported that they were called names by others ( $\chi^2(8, N = 379) = 43.50, p < .01$ ), that they were left out of peer activities ( $\chi^2(8, N = 379) = 42.89, p < .001$ ), and they stayed home from school because they were bullied ( $\chi^2(4, N = 379) = 27.78, p < .001$ ), and they reported that they rarely helped people who were getting picked on ( $\chi^2(10, N = 379) = 22.31, p < .05$ ). School fire setters reported that bullying was a big problem for them ( $\chi^2(8, N = 379) = 55.28, p < .001$ ) more than non-school fire setters. School fire setters were found to be somewhat different from non-school fire setters in terms of age ( $t(379) = 2.76, p = .006$ ): the average age of the school fire setters (12.7 years) was about half a year older than the non-school fire setters (12.1 years).

## Discussion

Like all studies, this study has several limitations. First, the sample consisted of youths who had set a fire in a large metropolitan area in the Southwest and had attended a fire-setter intervention program. The results of this sample cannot be generalized to all fire setters or even those who were referred to the intervention program and did not attend. This study also did not look at the bullying and victimization of non-fire setters. Second, the self-report nature of the instrument, the PRQ, gave only the perspective of the youths and did not include collateral information from parents or teachers, which may have been helpful. Third, although the sample size was large, this only represents a small portion of the youths involved in fire setting each year. Finally, the questionnaire asked for only basic demographics and the location of the fire but did not ask respondents for details regarding motive, the extent of fire, how the fire was started, or the context of the fire.

Despite these limitations, the current study has the important advantage of examining a unique group. Most previous studies of juvenile bullying have explored the individual and family characteristics of the bullies and the victims, while most previous juvenile fire-setting research explored mental health and behavior problems. Our study explores the intersection between juvenile school fire setting and bullying.

In this decade of school violence, school fire setting is of great concern for school administrators, teachers, staff, parents, and students (Osher et

al., 2004). The possibility that one lit match or the flick of a lighter could cause massive school destruction, injury, and loss of life is very real (Federal Emergency Management Agency, 2004). The finding that fire setters are often victimized by bullies contributes new information to the long-recognized connection between fire setting and mental health and behavior problems (Kazdin & Kolko, 1986; Lewis & Yarnell, 1951; Showers & Pickrell, 1987; Stickle & Blechman, 2002). The results of the current study suggest that students who set school fires are more often picked on and made fun of than students who do not set school fires, get called names by others, often feel left out of peer activities, and sometimes stay home from school because they are being bullied.

The results of this study are consistent with the results of Boberg's (2006) exploratory study that found that students set school fires for many reasons, including verbal and physical peer pressure from classmates. The juveniles in Boberg's study reported that they were either verbally or physically coerced into setting school fires rather than setting the school fires because they hated school, were troublemakers, or were mad at other students, teachers, or staff.

Some of the findings from this study, specifically that feeling left out and staying home from school are possible indicators of serious mental health problems including depression, anxiety, and possibly suicidal ideations, should be considered and assessed critically by school social workers to determine the etiology and possible coping strategies of these youths. Fire setting at school may be a reaction to bullying, as the majority of shootings at schools have been found to be (Leary, Kowalski, Smith, & Phillips, 2003). Leary et al. explored the relationship among social ostracism (including bullying and romantic rejection), mental health problems, interest in bombs and guns, and fascination with death/Satanism and school shootings. They found that thirteen of fifteen major school shooting incidents involved social ostracism. The link between social ostracism, specifically victimization by bullies, and juvenile fire setting should be further studied with the goal of preventing major fire incidents resulting in injury and death in educational communities.

Future training of school professionals to recognize the characteristics of juvenile fire setters may decrease the likelihood of a major school fire disaster and may allow school social workers to intervene before a fire is set. This study has implications for two areas of school social work: violence prevention and bullying prevention. School social workers have a unique viewpoint and the ability to work with the victims, the bullies, and their families to address the issues and possible outcomes of peer

victimization (Mishna, 2003). Evidence-based bullying prevention programs have been explored, resulting in a national blueprint program called the Olweus Bullying Prevention Program (Olweus, Limber, & Mihalic, 1998). Possible future research could support the addition of features regarding victimization by bullies and school fire-setting behavior to this blueprint program.

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