



The social ecology of the Columbine High School shootings

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ABSTRACT

The Columbine High School shooting in 1999 prompted school officials and policy-makers to create and implement programs and policies that would prevent violence in school and ensure school safety. Ten years have passed since the Columbine shooting; however, debates concerning risk factors for the shootings continue to ensue. The focus of this article is to examine the Columbine school shootings within the context of Bronfenbrenner's (1994) ecological systems analysis. We examine the most commonly identified risk factors, which operate within five systems levels: *chrono-*, *macro-*, *exo-*, *meso-*, and *microsystems*, and draw implications for school-based practice and policy.

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1. Introduction

On April 20, 1999, two high school students – Eric Harris, 18, and Dylan Klebold, 17, at Columbine High School in Littleton, Colorado arrived at their school with the purpose of committing a large scale massacre. Armed with firearms and explosives, they shot and killed twelve students and a teacher before turning the gun on themselves in the school library. In the wake of the shooting incident, a number of subsequent school shooters referred directly to Columbine as their source of inspiration, and conspiracies to shoot up schools and kill their students were uncovered by police authorities (Larkin, 2009). Media coverage of this tragedy also intensified, and the elements of the shooting were infused with terrorism as a control discourse, which helped to connect terrorism to school districts in the United States (Altheide, 2009). Fear traversed across American school districts, which increased security measures, such as use of security cameras, name badges, and security guards (Addington, 2009). Researchers, school officials, policy-makers, religious leaders, and ordinary citizens also scrambled to point out who or what was to blame. Many parents of the victims condemned the parents of the two shooters (see Wilkinson, 2004). Others had attributed the shooting

incident to the shooters' experiences in bullying victimization, their association with deviant youth cliques, their music preference, their school environment that privileged high school athletes, a socially prescribed masculinity, and violent video games (Burns, 2009; Kimmel & Mahler, 2003; Ogle & Eckman, 2002; Reuter-Rice, 2008; Saunders, 2003).

There have been many competing theories and explanations that suggest different paths of identification of the risk factors for Columbine shootings (see Verlinden, Hersen, & Thomas, 2000). To illustrate, it has been reported that Eric and Dylan were frequent targets of bullying victimization perpetrated by football players, which resulted in implementation of 'zero-tolerance and anti-bullying policies' across school districts in America (Crary, 2010; Garbarino, 2004). Moreover, 44 states have promptly passed laws that require schools to adopt anti-bullying programs and policies (Espelage & Swearer, 2010 see also Limber & Small, 2003). However, a recent study by Dave Cullen (2009) disagrees that both boys were victims of bullying. Cullen (2009) instead argues that they were perpetrators. Therefore, the effectiveness of punitive disciplinary policies and anti-bullying measures since Columbine has been questioned by a number of researchers (see, for example, Espelage & Swearer, 2003).

1.1. Rationale for the study

To address these conflicting viewpoints and to fill the gap in our understanding of Columbine more specifically, a number of scholars have taken a holistic, multidisciplinary approach to examine the risk factors associated with this incident (Fast, 2008; Henry, 2009;

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Newman, Fox, Harding, Mehta, & Roth, 2004; Tonso, 2002; Verlinden et al., 2000). To illustrate, the *American Behavioral Scientist* published two special issues in 2009, which marked the ten-year anniversary of Columbine. The special issues were designed to assemble researchers in various disciplines, including criminology, sociology, education, cultural studies, and media studies (Muschert & Spencer, 2009a, 2009b). The goal of the special issues was to integrate and synthesize the lessons learned from Columbine and to communicate them to a broader audience (Muschert & Spencer, 2009a). These scholars have indeed made a tremendous stride in advancing our understanding of Columbine and school shootings more generally.

In addition to the *American Behavioral Scientist*, many scholars have also advanced theories and perspectives of school shootings and school violence in several national and international journals, such as *Clinical Psychology Review* (Verlinden et al., 2000), the *Journal of the American Academy of Child and Adolescent Psychiatry* (Weisbrot, 2008), *Children and Schools* (Fast, 2003), *Aggression and Violent Behavior* (Wike & Fraser, 2009), just to name a few. Surprisingly, no study on school shootings has been published in *Children and Youth Services Review*, although this journal has one of the largest readerships from multidisciplinary researchers and professionals devoted to well-being of children and youth in various settings (e.g., home, school, community). In a search of articles on school shootings and related topics (e.g., school violence and bullying) in this journal, only one recent article that focused on school violence (Türküm, 2010) and three devoted to bullying/peer victimization in school (Mishna, Saini, & Solomon, 2009; Theriot, Dulmus, Sowers, & Johnson, 2005; Wei et al., 2010) were found. Given the major dearth of articles on school violence and school shootings in *Children and Youth Services Review*, it is time for an article that communicates specifically to researchers and practitioners in school social work to appear in this journal.

It has been reported that school safety and violence remained constant or declined from the mid-1990s to 2000 (Astor, Meyer, Benbenishty, Marachi, & Rosemond, 2005). However, findings from Slovak's (2006) study indicate that most school social workers perceive school violence as a major concern and their time spent on violence issues and violence prevention programs in schools have increased over the years. School social workers play an important role in violence prevention programs in schools and in shaping and implementing violence prevention policies and interventions (Astor et al., 2005). To provide effective violence prevention programs and services, school social workers must be aware of up-to-date philosophical, empirical, and practice issues surrounding school violence (Astor et al., 2005).

An ecological understanding of issues surrounding violence in school is a prerequisite for any type of effective mental health consultation with students, teachers, and school officials (Astor, Pitner, & Duncan, 1996). This integrative and holistic approach is consistent with the mission of social work, which stipulates that the focus of the profession is on the interaction between people and their environment (NASW Task Force on Specialization, 1978, p. 3). An ecological framework in particular offers an in-depth understanding of the interactions and transactions among students, family, school, and community, which can influence student behavior. Examining the ecology of school shootings is important for school social workers who frequently provide services for youth who are prone to aggressive and violent behaviors, and those who are victimized by violence in school. The ecological theory purports that individuals are embedded in multiple interrelated systems that directly and indirectly influence the individual (Bronfenbrenner, 1994). Given that various factors are interconnected, which potentially influence or inhibit violent behavior in school, this theory can provide useful frameworks for researchers and practitioners.

1.2. Focus of the study

The focus of this case study is to integrate the identified causes and correlates of the Columbine shooting within the context of

Bronfenbrenner's (1994) ecological systems theory. We begin our discussion with the profile of the two school shooters, which is then followed by examination of the commonly identified risk factors of the shooting incident at the *chrono-, macro-, exo-, meso-, and microsystem* levels. Practice and policy implications are also discussed.

2. Profile and characteristics of the shooters

In the wake of the Columbine shooting, the U.S. Secret Services of the Department of Education launched a series of investigations to 'profile' 37 incidents of school shootings from 1974 to 2000, which culminated into the *Safe School Initiative* (Vossekuil, Fein, Reddy, Borum, & Modzeleski, 2002). Although no reliable profile of school shooters exists, however, there are a few common characteristics among the shooters. The majority of high-profile school shooters were identified as White, adolescent males in suburban areas (Leary, Kowalski, Smith, & Phillips, 2003; Verlinden et al., 2000). Males have been regarded as the more aggressive gender in studies on youth violence (e.g., Coie & Dodge, 1998). Researchers consistently report that male youth are more prone to violent behavior and engage in more fights than females (Espelage, Mebane, & Swearer, 2004). They are also significantly more likely than females to perceive violence as a legitimate way to resolve conflicts (Kimmel & Mahler, 2003).

Psychopathology is another common characteristic among several school shooters including the Columbine shooters. Both Eric and Dylan underwent counseling sessions for depression, impulsivity, and anti-social behavior (Immelman, 1999; Tappan & Kita, 1999; see also Verlinden et al., 2000). Based on Eric's journal entries and personal communications with a counselor, Immelman (2004a) diagnosed Eric's behavioral patterns as consistent with pathological narcissism, anti-social tendencies, paranoid traits, and unconstrained aggression. In one of his website postings, he wrote: "God I can't wait till [sic] I kill you people. Ill [sic] just go to some downtown area in some big ass [sic] city and blow up and shoot everything I can. Feel no remorse, no sense of shame..." (Immelman, 1999). He was prescribed a psychiatric medication called Luvox for obsessive and compulsive disorder and was court ordered to attend an anger management class shortly after being arrested for vandalism (Meadows, 2006).

Dylan on the other hand was characterized as being overly sensitive to shame and humiliation. He was also evaluated as being depressed, over-anxious, mistrustful, and exhibited reclusive behavior patterns, which are consistent with a clinical diagnosis of avoidant personality disorder or social phobia (see Immelman, 2004b). He also expressed a sense of loneliness and isolation, as indicated by one of his journal entries: "I want to die really bad right now...no girls (friends or girlfriends), no other friends except a few, nobody accepting me...I feel so lonely w/o a friend" (Meadows, 2006).

3. Ecological risk factors

The Columbine shooting case is complex and context-specific, and the interactions within and among the systems level factors in the individual development, their immediate environment (e.g., home and school), policies, and cultural forces are all interwoven. Ecological systems theory provides an integrative framework for understanding the multi-level factors influencing the individual. According to this framework, the *chrono-, macro-, exo-, meso-, and microsystem* levels are all influences that shape individual attitudes and behaviors (Swearer & Espelage, 2004). The broader level systems also shape the immediate level systems, which create a trickle-down effect.

3.1. Chrono

The chronosystem includes consistency or change (e.g., historical events) of the individual and the environment over the life course (e.g., birth, divorce, relocation). In the case of Columbine, residential

mobility was identified as a risk factor. Eric never settled in one place during his childhood years due to his father's employment in the Air Force, which required constant relocation (Block, 2007; Briggs & Blevins, 1999; Brown & Merritt, 2002). His family moved from Dayton, Ohio; Ocada, Michigan; Plattsburg, New York; and back to Littleton, Colorado (Brown & Merritt, 2002). As a consequence, Eric's relationships with his friends were constantly interrupted which deeply affected him as evidenced by his statement, "I have moved to different houses or locations about six times...I left behind some of the greatest friends I ever had...Loosing [sic] a friend is almost the worst thing to happen to a person" (Jefferson County Sheriff Office, n.d.).

The plausibility of relocation as a risk factor for negative youth development however has been much debated, as evident in the findings from research on child outcomes of residential mobility. Studies on residential mobility (Coleman, 1990; Long, 1974; Simpson & Fowler, 1994; Wood, Halfon, Scarlata, Newacheck, & Nessim, 1993) have documented that frequency of mobility was associated with children's school performance, dropping out of school, and behavioral/emotional problems. These researchers reasoned that frequent mobility can be psychologically damaging to children because they lose friendships when they move and try to fit into new peer groups and do not have a strong commitment to a particular school or community. A more recent study by Tucker, Marx, and Long (1998) however found that frequent mobility is not harmful to children who reside with both biological parents. The findings from this study are consistent with Coleman's (1990) theory, which posits that the presence of both parents in the household can potentially increase human and social capitals (e.g., time spent between parents and children), which in turn can diminish the likelihood of youth's emotional and behavioral problems.

3.2. Macro

The macrosystem level is considered as a cultural "blueprint" that can determine the social structures and activities in the immediate systems levels (Bronfenbrenner, 1994). This level includes organizational, social, cultural, and political contexts, which can shape the interactions within other systems. Two macro-level factors – socially constructed masculinity and gun 'control' measures, warrant close examination in the Columbine shooting case.

3.2.1. Socially constructed masculinity

Eric and Dylan were frequently taunted and harassed by students at school, as evidenced by Eric's journal entry: "Everyone is always making fun of me because of how I look...well I will get you all back" (Meadows, 2006). The Washington Post described Columbine High School as dominated by a 'jock culture' where both Eric and Dylan were consistently bullied and harassed by athletes (Clabaugh & Clabaugh, 2005). Shortly after the massacre, a number of students at Columbine High School reportedly described jocks frequently shoving, cursing, and throwing rocks and bottles at Eric, Dylan, and a number of other non-athletic students (Pooley et al., 1999). One acquaintance of the shooter stated: "We were freshmen, and computer-geek freshmen at that. At lunchtime the jocks would kick our chairs, or push us down onto the table from behind..." (Brown & Merritt, 2002, p. 50). Evan Todd, a former football player at Columbine High, also verified these accounts by stating (shortly after the shooting): "Sure we teased them...They're bunch of homos...If you want to get rid of someone, usually you tease 'em" (Gibbs & Roche, 1999).

Schools are settings where masculinity and gender-shaping are reinforced, in particular through sports and dominant code of gender. Sports define patterns of aggressive and dominating performances as the most idealized form of masculinity (Consalvo, 2003), and athletes hold positions of power in schools (Garbarino & deLara, 2002). As Kimmel and Mahler (2003) pointed out, adolescent boys are forced to contend with a culturally-prescribed vision of masculinity, a definition which is held up as a model against which men measure themselves.

Danner and Carmody (2001) also argue that masculinity is based upon boys' position in social structure, and their access to power and resources. According to the researchers, there are several categories of masculinities of which the idealized form of masculinity has been 'hegemonic masculinity' – defined as distinct from, and in opposition and superior to femininity. Boys become 'real men' through reinforcement of heterosexuality, homophobia, physical aggression, domination of females, and willingness to use aggression and violence to achieve one's goals or to protect one's interest. The researchers also argue that hegemonic masculinity does not cause violence, but rather violence (e.g., bullying, harassment) are resources for 'doing' masculinity.

'Subordinated masculinity' is another type of masculinity in which boys who resist hegemonic masculinity or are subordinate to others are considered *less masculine*. Boys in this category are identified as 'faggots', 'geeks', 'nerds', 'wimps', 'sissies', 'pushover', or 'freaks'. A number of researchers have examined the relation between homophobic taunting and negative psychosocial outcomes, not only among sexual minority students (Poteat & Espelage, 2007) but also among students who are questioning their sexual identity (Birkett, Espelage, & Koenig, 2009; Espelage & Swearer, 2008) and heterosexual students (Swearer, Turner, Givens, & Pollack, 2008). Swearer et al. (2008) for example found that heterosexual boys labeled as 'gay' by their peers were at risk of psychological distress, verbal and physical bullying, and negative perceptions of their school than boys bullied for other reasons. Homophobic teasing is often long-term, systematic, and perpetrated by groups of students (Rivers, 2001), and places targets at-risk for greater suicidal ideation, depression, and isolation (Elliott & Kilpatrick, 1994). Boys who are constantly labeled as 'gay' and those do not measure up to the hegemonic masculinity feel unworthy, incomplete, and inferior. It is at this stage that these boys make extreme efforts to prove themselves to be 'men' in order to gain respect from others (Kimmel & Mahler, 2003). This is evident in a videotaped statement made by Eric, "Isn't it fun to get the respect that we're going to deserve?" (Gibbs & Roche, 1999; see also Wackerfuss, 2007). As Kimmel and Mahler (2003) note, "[s]hame, inadequacy, vulnerability – all threaten the self; violence, meanwhile is restorative, compensatory" (p. 1452).

3.2.2. Gun 'control' measures

Firearms are an important signifier of power and hence are an important way in which idealized masculinity is constructed (Katz, 2003). Eric and Dylan were fascinated with gun-related violence because they were convinced that violence was a way to end the denigration and subordinated masculinity. A classmate recalled Eric's statement in class when the Kosovo War broke out in 1999: "I hope we do go to war. I'll be the first one there. [I want to] shoot everyone" (Achenbach & Russakoff, 1999). The boys also goaded their friends to purchase firearms for them at a gun show, which later resulted in then 22-year-old Mark Manes pleading guilty on August 18, 1999 to illegally providing minors with a TEKDC9 machine pistol and 100 rounds of nine millimeter ammunition (Springhall, 1999). Then eighteen-year-old Robyn Anderson, who was Dylan's senior prom date, was also accused of furnishing the two with weapons although she has not been charged.

Firearms are present in one-third of American households (Johnson, Coyne-Beasley, & Runyan, 2004), and many youth are aware that obtaining a weapon is relatively easy (Feder, Levant, & Dean, 2007). Because evidence consistently points out that gun control policy is an effective deterrent to firearms-related youth homicide (Elliott, 1994; Stolzenberg & D'Alessio, 2000), there had been a major outcry among politicians over lack of gun control measures. However, gun control policies were not strict enough to prevent the shooting or reduce the death toll at Columbine High for a number of reasons. Kleck (2009) argues that Robin Anderson who legally purchased guns at a gun show for the shooters could also have legally purchased the same guns at a gun store (eighteen was the minimum age to buy guns under the state and federal laws). With

regards to criminal record, she had none. Moreover, Eric himself turned eighteen years of age several weeks before the shooting and was old enough to purchase the guns. He could have also legally purchased the same guns in a gun store rather than at a gun show. Furthermore, there had been much debate that a 'gun show loophole' was a play in this case. Kleck (2009) however disagreed that there was a loophole. He argued that the same federal regulations applicable to gun transfers, such as background checks as mandated by the Brady Bill, only applied to transfers involving federally licensed dealers. On the other hand, private transfers as was involved in this case were not regulated by federal gun controls, and the location of the private transfers was irrelevant.

Researchers (e.g., Astor et al., 2005) also argue that although the potential for firearms in American schools remain high due to availability of weapons, there has been a major decline in weapons on school grounds. For example, the Department of Education reported that between 1993 and 1999, the percentage of students who reported carrying a gun in school dropped from 12% to 7%.

3.3. Exo

The exosystem level consists of interactions between two or more settings, one of which does not contain the individual. However, the occurrence of the event indirectly influences the processes within the immediate setting in which the individual is situated (Bronfenbrenner, 1994). Examples of indirect interactions in the exosystem level factor are parents' social support (see Eamon, 2001) and parents' employment (see Hong & Eamon, 2009), which can undermine interactions in the direct level setting (e.g., parent–child relationship). For example, studies have documented that parents' employment and working hours can influence children's behavior because parents have less time to form positive relationships with their children, which can result in negative peer interactions in school (e.g., anti-social behavior, peer victimization) (Hong & Eamon, 2009). Mass media can also impact youth's mental health, which in turn affects his or her interactions with peers at school. As with access to weapons, violence-themed video games is another identified potential risk factor for the shooting. Exposure to violence in the media has increased significantly among youth over the past decade, pushing media influence forward as an explanation for the series of school shootings in the mid- to late-1900s (Newman et al., 2004).

Eric and Dylan were frequent players of games such as *Doom* and *Mortal Kombat* (Brown & Merritt, 2002; Thomas, 2009). Eric expressed his fascination with *Doom* in his writing assignment in school: "Doom is so burned into my head my thoughts usually have something to do with the game...What I cant [sic] do in real life, I try to do in doom... The fact is, I love that game..." (Block, 2007, p. 11). Consequently, violent video games such as *Doom* and *Mortal Kombat* were frequently blamed by researchers, politicians, and the media for supposedly inducing aggressive and violent tendencies among the shooters and for contributing to the shootings (Brown & Merritt, 2002). As Alvin Poussaint, a psychiatrist at Harvard Medical School note: "in America, violence is considered fun to kids. They play video games where they chop people's heads off and blood gushes" (Klein & Chancer, 2000, p. 132).

Violence-themed video games have recently surpassed violent music video or TV as a matter of concern to parents and law-makers. Youth are spending a considerable amount of time playing these games as active participants, placing them at an increased risk of becoming aggressive (Anderson et al., 2003; Huesmann & Taylor, 2006). A number of studies on the effects of violent media contents on youth behavior also found that exposure to violence-themed video games also increase hostility toward others, desensitization, and fear and anxiety (e.g., Anderson, 2004; Funk, Baldacci, Pasold, & Baumgardner, 2004). Funk et al.'s (2004) study for example investigated relations between violence exposure and desensitization among 150 students in elementary school. The study reports

that youth exposed to video game violence were less likely to express empathy and more likely to hold pro-violence attitudes in comparison to those who were not exposed to video game violence.

Other researchers on the other hand found little evidence that exposure to violent games is associated with aggressive and violent behaviors. Olson (2004) notes that the research community has been divided on whether violence-themed video games indeed induce aggressive behavior among youth, and if so, for whom and to what degree.

3.4. Meso

A mesosystem consists of interrelationships or interactions between two or more micro-systems (e.g., family, school). One mesosystem example relevant to the Columbine shooting case is teacher–peer relations. A year after the shooting, the Juvenile Diversion for the Denver District Attorney's Office conducted a research a study on the school climate in Columbine High School. An interview was conducted with 28 adults and 15 students (both current and former) concerning students' experiences of bullying and the school officials' responses to bullying situations. Findings from the study indicate that although teachers responded only to bullying situations they had witnessed, they overlooked situations where certain groups (i.e., jocks) were involved. The study also reported that both the students and parents expressed dissatisfaction with teachers' responses to bullying (Brown & Merritt, 2002). As Brian Rohrbough, the father of one of the slain victims stated, "Jocks could get away with anything. If they wanted to punch a kid in the mouth and walk away, they could...They did nothing to protect students from each other" (Goldstein, 1999).

Teachers' apathetic response to students' bullying situations has also been blamed for the shooting at Columbine. Studies consistently report that teachers' involvement is crucial for preventing or deterring negative peer interactions among youth in school. Teachers can unintentionally reinforce negative peer interactions such as bullying by failing to be involved in their students' lives at school (Espelage & Swearer, 2003; see also Garbarino & deLara, 2002). Teachers' involvement often depends on their perceptions of bullying. In their study of the prevalence and correlates of bullying in seven schools, which included students', parents', and teachers' reports, Stockdale, Hangaduambo, Duys, Larson, and Sarvela (2002) found that students tend to report higher prevalence of bullying than did parents and teachers. Other researchers also report that the lack of teachers' involvement is associated with teachers' lack of confidence in dealing with students' peer conflicts and bullying situations. Another study (Boulton, 1997) investigated from a sample of 138 teachers, teachers' attitudes toward bullying; their self-belief about their ability to deal with bullying situation; their perceptions of their responsibility for handling bullying situations in various locations; and the impact of length of services on their attitudes toward bullying. Although teachers generally hold negative views toward bullying, they expressed lack of confidence in their ability to mitigate bullying situations.

3.5. Micro

The most direct influence on the Columbine shooting are within the microsystem level, which consists of individuals or groups of individuals with whom individuals have interactions (e.g., parents, peers). The microsystem consists of patterns of activities, social roles, and interpersonal relations experienced by the individual in a direct setting (Bronfenbrenner, 1994). The interactions within the microsystems influence the individual. Relevant microsystems level risk factors are parenting and peer influence.

3.5.1. 'Bad' parenting

Eric and Dylan's parents were frequently blamed for the shooting, as reflected in statements made by several family members of Columbine students and the victims. Judy Brown, the mother of a friend of Eric and

Dylan said, “Who are these people [parents of Eric and Dylan] who feel that they don't owe society anything? They owe society a lot” (Wilkinson, 2004). Added Brian Rohrbough: “If your kid was caught breaking into a van with another kid, would you allow him to continue hanging out with that other kid at all hours of the night, running together, never knowing where they were, at 3 in the morning? These things don't make sense for a reasonable person. Bad parenting, yeah. Wicked families, absolutely, in my opinion” (Wilkinson, 2004). Parent-blame was most evident in the lawsuits filed by the family members of the victims against the parents of the shooters. Michael and Vonda Shoels were among the first to file a lawsuit against the parents of Eric and Dylan in the amount of \$250 million for the wrongful death of their son Isaiah Shoels. A dozen of other family members of the victims and survivors also followed suit, claiming that the parents of both Eric and Dylan were found negligent in failing to prevent the shooting tragedy. Ebenstein (2000) argues that the parents were legally liable for the shooting. Had the parents paid attention to the evidence in their homes such as diary entries, accumulated weapons, websites, and testimonies from friends and neighbors, they would have known that the shooting was looming and would have alerted the police. He specifically argues that the parents of both boys had sufficient evidence to take actions for their sons' inactions.

Neither Eric nor Dylan appeared to come from a 'bad' family, and both sets of parents were appropriately concerned about their sons' misconduct, trying to help them out as best as they could (Block, 2007; Larkin, 2009). Thomas and Susan Klebold were attentive parents who were involved in their son's school activities since his first-grade year. They were also staunch supporters of gun control measures and expressed their concerns over the level of violence in the video games their son was playing (Fast, 2008). Throughout Dylan's adolescent years, his father also saw him everyday and prior to the shooting, his father spent a part of the previous week selecting dorm rooms with him at college. In an op-ed of the New York Times, Susan stated, “Dylan did not do this because of the way he was raised...He did it in contradiction to the way he was raised” (Brooks, 2004). Despite Dylan's vitriolic banter expressed in the basement tapes, he admitted that his parents “always taught me self-awareness and self-reliance. I always loved you guys for that...” (Fast, 2008, p. 175).

Wayne and Kathy Harris, like the Klebolds, were also involved in their son's life. Eric's teachers and coaches praised his parents for regularly attending parent-teacher conferences and sporting events (Fast, 2008). His father was a Scout leader and coached his son's sports team, and his mother volunteered at school events. Eric's friends also recalled how his parents disciplined their son by grounding him, assigning chores, and removing phone and computer privileges (Block, 2007). Despite his seething rage, Eric also expressed a great deal of appreciation to his parents. In the basement tape, he appeared remorseful as he stated, “My dad's great and my mom's so thoughtful...It sucks that I am doing this to them” (Fast, 2008, p. 179).

3.5.2. Deviant peer influence

Although neither Eric nor Dylan was reportedly affiliated with the “Trenchcoat Mafia”, a close-knit group of socially isolated and oppositional youth, the Trenchcoat Mafia and gothic subculture became targets of intense scrutiny by the media (Carney, 2006). Shortly after the shooting, finger-pointing at the members of the Trenchcoat Mafia continued to grow as they were portrayed by the media as violent and murderous. Peer influence as a predictor of deviant and criminal behaviors among youth has been examined extensively in a plethora of studies. Researchers have consistently reported a significant association between deviant peer affiliation and a number of risk factors, such as substance abuse (Biglan, Duncan, Ary, & Smolkowski, 1995; Fergusson, Swain-Campbell, & Horwood, 2002; Oxford, Oxford, Harachi, Catalano, & Abbott, 2001); behavioral problems (Gifford-Smith, Dodge, Dishion, & McCord, 2005; Keenan,

Loeber, Zhang, Stouthamer-Loeber, & Van Kammen, 1995), and violent acts (Fergusson et al., 2002) among adolescents.

Deviant peer affiliation is also embedded within broader contexts, such as school climate. Tonso (2002) documented several studies, which suggest that schools located in predominantly White, suburban areas, set the stage for the production of oppositional peer groups and the developmental of hierarchal relationships among students from various peer group locations. For example, an earlier study by Eckert (1989), which examined social identities and peer relationships of two youth groups in a middle-class school – the *Jocks* and *Burnouts*, found that Jocks were not solely athletes who affiliated with sports but were students in the in-crowd whose lifestyle embraces mainstream ideals and values. Burnouts on the other hand were a ‘rebellious crowd’ who were associated with lifestyles and values that ran counter to the mainstream ideals. This group of youth perceived school as interfering with their peer relationships and used their oppositional behaviors (e.g., truancy) to reaffirm their peer bonding. Because they rejected the school hegemony, they were (or felt) largely rejected by their mainstream peers, teachers, and school officials.

4. Discussion

4.1. Lessons learned

Getting one's arms around Columbine is an insurmountable task, as there is a vast amount of social science research conducted to date. An examination of these studies reveals that an examination of the multiple level influences is imperative, and the ecological framework (1994) is highly appropriate for researchers and practitioners. The levels of systems interact with each other to influence individual behavior, and school shooting incidents might be artifacts of these interactions. For instance, high residential mobility in the early human developmental stages (chrono-) can be a potential barrier to developing healthy peer relationships (micro-) among youth; such barriers can increase the likelihood of negative peer influences and delinquent acts. However, negative peer interaction (micro-) might not escalate into tragic violent acts involving fatal shooting if violence prevention measures in schools that address the relevant issues, such as homophobia and masculinity (macro-) were implemented (see Hong et al., 2010).

Given the major influence of Columbine on subsequent school shootings and the number of scholars focused on this particular incident, understanding the configurations of the risk factors has major social work implications in the educational settings.

4.2. School social work implications

School social work profession is guided and carried out through the use of social work knowledge, values, and beliefs (Bartlett, 1970), which emphasize the importance of understanding the interaction between people and their environment (Germain, 1991). Accordingly, prevention and intervention efforts in schools need to address complex interactions between these multiple levels of systems that affect individual behavior. This requires school practitioners (e.g., social workers and school psychologists) to take a multifaceted approach to preventing and intervening in violence. Although every incidence of school violence is unique, they are affected by multiple systems at different levels. Thus, school social workers must first have a comprehensive understanding of the interactions between and among the multiple systems and their influences on individual behavior. In particular, school social workers must be aware of the effects many institutions have on the social and behavioral functioning of the individual youth. In addition, because individual behavior can influence the systems levels, as well as be affected by them, intervention strategies must consider the changing patterns and characteristics of the interactions between the systems. As a result, initial goals and objectives of prevention and intervention efforts

would be no longer relevant unless they are continuously modified and adjusted to reflect the current conditions of systems and individuals. Thus, all prevention and intervention efforts need to be on-going processes. Throughout the processes, the prevention and intervention goals need to be frequently evaluated against what has actually happened to individuals and surrounding systems, and be modified and adjusted reflecting gaps between the initial goals and changes actually made.

It is not always possible for practitioners to be flexible in delivering programs and services for those affected by school shooting incidents—victims, perpetrators, and all those involved, and in implementing the prevention programs and services. Policies, regulations, and agency rules need to allow sufficient autonomy and discretion for practitioners, with which they can make changes in a timely manner on their initial plan for prevention and intervention when each system experiences changes after prevention and intervention efforts are initiated. However, the flexibility in the practitioner's side may be a nightmare for policymakers, regulators, and agency administrators, who prefer stable, predictable, and easily manageable service delivery systems.

To increase the practitioner's autonomy, policy-makers, regulators, and agency administrators need to pursue two different goals in developing and implementing policies: ensuring that target populations receive quality services from service providers as expected, and protecting practitioners from potential disputes between them and the clients regarding service qualities and outcomes. The former requires policies to be as specific and standardized as possible so that service qualities and outcomes are evaluated easily; the latter requires policies to be open to various interpretations so that practitioners can develop unique prevention and intervention plans based on specific conditions of each clients. These seemingly contradictory goals can be achieved when practitioners are provided with adequate education and training, understand the complex relationships between the multiple systems and individual behavior, and obtain skills and techniques that can be utilized throughout the prevention and intervention processes. High quality practitioners, armored with comprehensive theories, practice models, and up-to-date skills and techniques, can work hard to achieve the balance between what clients need and what policymakers and regulators want. Many of the current practitioners have already worked hard to meet the clients' needs, even without adequate resources and proper up-to-date training on a regular basis. It is, however, needless to say that investment in improving the quality of practitioners is one of the best ways to ensure clients' satisfaction.

School shooting incidents lead to involvement of all levels of the ecological systems. For instance, at the chronosystem level, victims, perpetrators, their family and friends, school teachers and other students suffer from potentially irrevocable mental, physical, and psychological damages, which has serious long-term effects on their lives. At the macrosystem level, the culture of masculinity can either be strengthened or weakened, depending on how involving parties respond to the incidents. Similarly, gun-related policies can either be strengthened or weakened as well. Although firearms are prohibited on school property, obtaining and carrying weapons in schools is relatively plausible for some youth (see Feder et al., 2007). School social workers need to collaborate with school administrators in participating in state and local discussions on stricter gun control measures in the community Dahlberg (1998). At the exosystem level, the criminal and civil justice systems are likely to experience an influx of public attention on how they deal with these tragic incidents. Their responses to the future school shooting incidents are defined by what the involving parties experience during these processes. Mass media sometimes play a negative role at the exosystem level. They often exaggerate and intensify shooting incidents by displaying highly selective images (Chang & Diaz-Veizades, 1999), and decontextualize and individualize the incident, ignoring influences of the multiple systems (*citation excluded for anonymity*). At the mesosystem level,

relationships between teachers and students and among students are affected by shooting incidents. While a shooting incident causes a variety of crises for all those involved, it also can be an opportunity to address problems in the school system, including bullying and peer harassment. Finally, at the microsystem level, parents, children, friends, relatives, and neighbors of victims and perpetrators experience the most direct impacts of the incident. Because each of those at the microsystem level lives within its own multiple layers of systems, one incident in one system produces ripple effects on all involving systems. Thus, practitioners working at various settings at various system levels need to be aware of all those relationships between the multiple systems and their influences on individuals. Building formal and informal communication networks among practitioners related to school shooting is particularly important, given that a practitioner cannot address all the systems involved and resources in a service agency are limited.

4.3. Limitations

Despite the insights gained from this case, we must also note some limitations. First is the issue of generalizability from a single case. Case studies are often difficult to generalize due to inherent subjectivity, which makes it relevant only to a particular context (Eisenhardt, 1989). Second, this study primarily relies on anecdotal reports rather than police reports or interviews, which may overlook other possibly relevant factors (see also Hong, Cho, & Lee, 2010; Hong & Liao, 2010).

5. Conclusion

What are the consequences of gun violence on children, youth, and their families? How do they cope each and every day with the fear that this day could be their last? Although this article focused on school-based violence, the many dimensions and consequences of it, the ecological systems theory, and its importance for locating this phenomenon within a framework specific to the United States; one cannot avoid the increasing violence that engulfs countries around the world and the consequences on the behavior and developmental outcomes of youth (see, for example, Smith, 2003; Smith-Khuri et al., 2004). News coverage of the school shooting incidents in countries, such as Germany and Finland has generated intense public debates concerning school violence and safety around the world. A number of researchers have also conducted cross-national and comparative studies on the effects of school violence on children and youth (e.g., Akiba, 2008; Astor, Benbenishty, Vinokur, & Zeira, 2006; Benbenishty, Astor, Zeira, & Vinokur, 2002). Clearly, there are predisposing, situational and activating risk factors that operate at the multiple environmental levels (see Fraser, 1995).

Ending violence in school is a daunting task for educators, school officials, mental health professionals, researchers, and policy-makers in the United States and around the world. However, it is now recognized that individual psychiatric assessment and individual-based violence prevention strategies are not enough (Twemlow, 2008). There also needs to be an assessment that examines the nature and influences of the various ecological systems (i.e., family, peer group, school, and community) that affect youths' behavior. This article serves as an impetus for understanding school shooting tragedies more broadly, which can inform practitioners, policy-makers, and research in assessing the multiple level influences, a first step in designing effective violence prevention and intervention strategies in school.

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