Revisiting the Virginia Tech Shootings: An Ecological Systems Analysis

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Online publication date: 06 November 2010
School shooting cases since the late 1990s have prompted school officials and legislators to develop and implement programs and measures that would prevent violence in school. Despite the number of explanations by the media, politicians, organizations, and researchers about the etiology of school shootings, we are not united in our understanding of the risk factors, particularly those relevant to racial minorities and immigrants. This article examines the Virginia Tech shooting incident using Bronfenbrenner's ecological systems theory. We assess a number of risk factors that operate within five system levels (the micro, meso, exo, macro, and chrono systems) and draw implications for assessment and intervention.

On April 16, 2007, a school shooting tragedy befell the Virginia Tech campus, leaving 33 people, including the gunman, dead and countless others seriously injured. The lone gunman was identified as Seung-Hui Cho, 23, a senior at Virginia Tech. The nation was once again gripped with trauma, sadness, and disbelief, desperately searching for answers to what provoked Cho to carry
out what is now known as the “worst school shooting in American history.” In
the days, weeks, and months that followed, school officials, policymakers, psy-
chiatrists, and researchers took to the media spotlight, theorizing why violence
and shootings are plaguing school districts and higher education institutions.

Unlike other headline-grabbing school shooting cases that mostly
involved White, suburban teenage boys (e.g., the Columbine shooting),
the perpetrator in this case was an immigrant student from South Korea.
Korean communities in Virginia and across the country were shocked that
the perpetrator of America’s worst school shooting was one of their own.
Fearing potential backlash against Koreans in the United States, schools, uni-
versities, and Korean community leaders sent e-mail messages and distribu-
ted flyers to Korean students and residents, urging them to take precautions
and report any possible hate crimes to the police. Shock and dismay also trav-
ersed across South Korea, and South Korean president Roh Moo Hyun
offered his condolences to the survivors of the shooting (Steinhauer, 2007).

Much has been speculated about Cho’s motivation for the shooting
based on testimonials by Cho’s family and relatives, interviews with students
and classmates, school officials, and a self-made videotape of Cho (which he
sent to a television station) in which he expressed his resentment against his
perceived mistreatment. As this case demonstrates, much is still unknown
about youth violence, particularly that involving racial and ethnic minorities.
The Report to the President on Issues Raised by the Virginia Tech Tragedy
found that school officials, health care professionals, law enforcement per-
sonnel, and researchers were not disseminating information on Seung-
Hui Cho and those likely to pose a danger to themselves or others (Leavitt,
2007). Moreover, the majority of the studies on the Virginia Tech case
(e.g., Vieweg et al., 2008) have focused on the aftermath rather than on
the etiology of the shooting. As a result, much of our energy and resources
have been directed toward intervention programs and policy measures,
which have been far more costly than prevention efforts.

Bronfenbrenner’s ecological systems model is ideal in integrating seg-
mented parts into understandable pieces and allows for a more complete
analysis of social/environmental factors that impact human behavior—in this
case, violence. This model can facilitate our understanding of the unknowns
surrounding the Virginia Tech shooting incident. This article examines the
multiple risk factors associated with the incident using ecological systems
theory. Practice and policy implications are also discussed.

APPLICATION OF ECOLOGICAL SYSTEMS THEORY
TO SCHOOL VIOLENCE

In recent years, a number of researchers have taken the ecological approach
as a framework for violence prevention by examining the complex interplay
of individuals, families, peers, schools, and the communities where violence occurs. The interactions of the various spheres of influence are important in our understanding of how the spheres of human interaction cultivate an environment that fosters school violence (Verlinden, Hersen, & Thomas, 2000). Bronfenbrenner’s ecological systems theory, which facilitates a broader understanding of school violence, represents a reaction to the limited scope of research being conducted by social scientists. This theory eschews the tendency to focus exclusively on a youth’s individual characteristics; rather, it depicts school violence as a result of interactions among multitudes of factors directly and indirectly affecting the individual. Ecological systems theory posits that individuals are part of five interrelated systems: the micro, meso, exo, macro, and chrono systems (Bronfenbrenner, 1994). The following sections examine the Virginia Tech shooting case within each system of ecological systems theory.

MICRO SYSTEM

The most direct influences are within the micro-system level, which consists of individuals or groups of individuals with whom the person has interactions. Bronfenbrenner (1994) depicts the micro system as a pattern of activities, social roles, and interpersonal relations experienced by the individual in a direct setting (e.g., family) with particular physical, social, and symbolic features that would invite, permit, or inhibit engagement in sustained, progressively more complex interactions with the immediate environment. Three micro-system-level factors in this case are individual characteristics, the parent-child relationship, and peer victimization.

Individual Characteristics

Individual characteristics of school shooters have been identified by psychologists, educators, and law enforcement. In recent years, the FBI’s Behavioral Science Unit and the U.S. Secret Services have “profiled” youth who are potentially at risk of violence at school (U.S. Department of Education, 2002). Despite their best intentions, however, profiling potential school shooters has been a problem in that the accuracy of such profiles is questionable. Reddy et al. (2001) note the erroneous assumption that all of the perpetrators were White, when in fact a small number were not. Nevertheless, two individual-level characteristics (i.e., gender and mental health status) are risk factors relevant to the Virginia Tech shooting committed by a racial minority individual.

Virtually all of the infamous school shootings have been committed by males (Leary et al., 2003), who are typically perceived as the more aggressive gender (e.g., Coie & Dodge, 1998), more prone to violent behavior, and more likely to engage in fights than females (Espelage, Mebane, & Swearer,
Males are also four times more likely to perceive violence as a legitimate way to resolve conflicts (Kimmel & Mahler, 2003), which can be explained by gender role socialization theory. This theory posits that males are socialized to be dominant, powerful, and aggressive; males experience greater social pressure than females to conform to socially prescribed gender roles as independent, self-reliant, and tough (Martin, 1995). This is true for the perpetrator of the Virginia Tech shooting. Cho came from a country with traditionally strong male-dominant values, which are normally transmitted from one generation to the next. Korean Americans, as with most ethnic minorities, preserve their own cultural values, which they reinforce to the next generation (Min, 1999). Although gender appears to be a risk factor, it is shaped by sociocultural influences. For instance, since it is strictly prohibited in South Korea for citizens to possess a gun, Cho would not have committed a mass killing had he remained in South Korea.

A number of school shooters have also been identified as having mental and emotional distress (e.g., Immelman, 1999). It has been reported, for example, that many of the shooters underwent counseling sessions for depression, impulsivity, and antisocial behavior (Tappan & Kita, 1999). Mental health issues were also a risk factor in the Virginia Tech case. Cho was referred to the school educational screening committee during his elementary school years because his teachers felt that his lack of communication stemmed from emotional issues. During his middle school years, he was referred to the Center for Multicultural Human Services, a mental health facility for low-income immigrants and refugees. Psychiatrists diagnosed him as having social anxiety disorder and emotional problems. Tests administered by mental health professionals evaluated Cho as socially immature and lacking verbal skills, although his IQ was above average (Virginia Tech Review Panel, 2007).

Subsequent to the massacre, a number of forensic psychiatrists diagnosed Cho as suffering from anger and depression, similar to most of the school shooters profiled. A study conducted by the Secret Service found that 98% of the high-profile school shooters had experienced loss, grief, or sense of failure (Cullen, 2007). According to a roommate Cho confided in, he was dreaming of a supermodel girlfriend. In real life, he stalked a number of women who refused his advances and contacted the police. He rarely expressed his emotions directly but rather was bottling up his anger (e.g., “You have vandalized my heart, raped my soul, and torched my conscience”) (Cullen, 2007).

Lack of Parent-Child Relationship

As reported by the Virginia Tech Review Panel (2007), a major issue between Cho and his family was lack of relationship and communication. Cho spoke very little to his parents and avoided eye contact. Although his parents urged him to open up, he isolated himself from his family, which generated a high
level of family stress. The lack of a parent-child relationship was attributed to the fact that both of Cho’s parents worked long and extended hours at their dry cleaning business. Such situations can create child-rearing difficulties and decrease parent-child interactions. Both Cho and his sister reportedly felt isolated due to lack of interaction with their parents (Virginia Tech Review Panel, 2007).

Strong parent-child relationships can potentially be a protective factor against violence. Unfortunately, few studies have specifically examined the association between parent-child relationships and violent behavior (Hawkins et al., 2000). A number of researchers in South Korea report that a negative parent-child relationship or the lack of such a relationship is significantly associated with violent and suicidal behaviors among youth (e.g., Oh, Park, & Choi, 2008). Parents’ employment and working hours can also influence child behavior because parents have less time to form attachments and interact positively with their children (Eamon, 2001). Several researchers have found an association between parents’ employment and negative child outcomes. Han, Waldfogel, and Brooks-Gunn (2001), for example, report that children with working mothers are likely to exhibit behavioral problems.

Attachment theory (Bowlby, 1977), which emphasizes the importance of children’s emotional bonds with their caretakers during their early years, might explain why negative parent-child relationships are related to violent behavior. Children with negative parental attachment have problems relating with others and are likely to engage in violence (Kennedy & Kennedy, 2004). Attachment theorists also suggest that parents must form a positive attachment with their children, which will facilitate children’s healthy social development.

Peer Victimization

Former classmates at Westfield High School recalled Cho being mocked and bullied for his poor English skills, as well as his inaudible manner of speaking (Kleinfield, 2007). He only whispered if pushed to speak by his teachers. Cho’s sister also reported that both she and her brother were subjected to harassment by classmates throughout their school years since their immigration to the U.S. (Virginia Tech Review Panel, 2007). Cho expressed his resentment at his perceived mistreatment by his classmates. In a QuickTime video of himself, he said, “You . . . decided to spill my blood. You forced me into a corner and gave me only one option” (Kleinfield, 2007).

As mentioned earlier, only a limited number of studies shed light on the association between peer victimization and racial minority status, despite the fact that Asian American youth are frequently subject to racial harassment from peers in school. Moran and colleagues (1993) found that 50% of the bullied Asian children in their study (compared to none of the bullied White children) had been harassed due to their race. Chin (2008) cites federal
statistics showing that the percentage of Asian American youth who report being bullied at school has increased in recent years, from 2.5% in 1999 to 6.8% in 2003. Statistics from 2005 also indicate that Asian/Pacific Islander, American Indian, and Alaska Native youth more frequently report being targeted for verbal harassment (11.8%) than White (10.3%) and Hispanic (10.5%) youth but not African American youth (15.0%). Although there was no difference in the frequency of peer victimization between ethnic minorities and Whites (Moran et al., 1993), the consequences are more likely to be severe for the former, who tend to have fewer resources to deal with victimization than the latter.

Harassment against Asian American youth often stems from racial stereotypes. Because Asians are stereotypically perceived as silent, docile foreigners who rarely cause problems, they are easily targeted for peer harassment that often results in bicultural stress, which has been found to be associated with depressive symptoms (Romero et al., 2007). These stereotypes are internalized by many Asian American youth and are also associated with negative outcomes such as delinquency and violent behaviors (Huang & Ida, 2004).

MESO SYSTEM

The meso system consists of the interrelationships between two or more micro systems that directly affect the individual (Bronfenbrenner, 1994). Interactions in one micro system, such as family environment, may influence interactions in another, such as peer relationships in school, or vice versa (Eamon, 2001). The association between parent-child relationships and peer relationships is a meso system-level example in the Virginia Tech shooting case. Lack of a parent-child relationship can result in the child developing ineffective social skills, which leads to peer rejection and bullying in school (Orpinas & Horne, 2006). Likewise, victimization in school can unduly influence family relationships. It was reported that Cho’s sister witnessed students taunting him when he walked down school hallways; however, he never opened up to his family about his experiences of being ridiculed at school and further distanced himself from his family (Virginia Tech Review Panel, 2007).

EXO SYSTEM

The exo system consists of interrelationships between two or more micro systems or settings, but the individual is contained in one (Bronfenbrenner, 1994). One relevant exo-system-level factor is media coverage of school shootings. It has been a major public concern that at-risk youth exposed to media violence (e.g., media coverage of school shootings) may be influenced to act out violently for their perceived mistreatment and injustice in school.
Cho expressed his admiration for Columbine shooters Eric Harris and Dylan Klebold. In his letter, he wrote, “We martyrs like Eric and Dylan will sacrifice our lives to & you thousand folds for what you apostles of sin have done to us” (ABC News, 2007). Studies reveal that exposure to media coverage of violence increases the likelihood of immediate and long-term violent behavior. Media violence primes existing aggressive scripts and cognitions, increases physiological arousal, and triggers an automatic tendency to imitate observed behavior (Anderson et al., 2003). Social learning theory can also explain the relationship between media and violence; violent behavior can potentially result from observing a model acting violently.

MACRO SYSTEM

The macro-system level is considered a “cultural blueprint,” which may determine the occurrence of social structures and activities in the immediate system levels (Bronfenbrenner, 1994). The macro system refers to cultural beliefs, opportunity structures, and hazards that affect the particular conditions and processes in the micro system. Macro-system-level factors relevant to this case are cultural barriers to mental health services and access to guns.

Cultural Barriers to Mental Health Services

Following the recommendation from the elementary school, Cho’s parents reluctantly sought counseling for their son. However, Cho and his parents had to overcome several obstacles, including cultural barriers to mental health services (Virginia Tech Review Panel, 2007). In South Korea and in Asian American communities, mental or emotional problems are commonly perceived as signs of shame (Kramer et al., 2002). Leong and Lau (2001) reviewed a number of studies on mental health services for Asian Americans. These studies found a number of barriers to mental health services for this population, including conflict between Asian American cultural values and Western-based mental health systems (Atkinson & Gim, 1989); also, traditional, Western-based psychotherapy emphasizes open verbal communication as opposed to the allocentric values held by Asian Americans (Sue & Sue, 1977). In addition, many Asian American immigrants encounter language barriers, lack of information on mental health services, and lack of affordable mental health services within their ethnic community (e.g., Ingram, 2007).

Access to Guns

In the aftermath of the shooting, then-President George W. Bush signed into effect the first major federal gun control measure. This measure requires states to enter the names of people declared by a court as mentally ill into
an FBI database, which would prohibit the purchase of guns (Cochran, 2008). According to the Brady Center to Prevent Gun Violence, Cho would be prohibited from purchasing a gun since he posed a danger to himself and others. Regrettably, Virginia did not send Cho’s mental health information to an FBI database (Cochran, 2008), which might have prevented Cho from purchasing guns. Studies have shown that homicide rates among youth have significantly increased since 1985, which has been attributed to an increase in the availability of firearms to young people (Blumstein & Cork, 1996).

CHRONO SYSTEM

The chrono-system level is characterized as change or consistency over time in the characteristics of the individual and the environment in which the individual is embedded. The chrono system encompasses both individual (e.g., life transition) and environmental change (e.g., divorce, historical events, social conditions) (Bronfenbrenner, 1994). Immigration to the United States is an example of a chrono-system-level factor. In South Korea, Cho had few friends that he played with. Cho was introverted and spoke little; however, reticence is regarded as a positive trait in South Korea, one that is often equated with scholarliness (Virginia Tech Review Panel, 2007). In 1992, Cho’s family immigrated to the United States to provide educational opportunities for Cho and his sister. Cho’s family reported that after their arrival, Cho appeared to be more socially withdrawn and isolated than he had been in South Korea. These observations suggest that historical events over the life course can affect the individual.

PRACTICE AND POLICY IMPLICATIONS

As this analysis indicates, the risk factors among racial and ethnic minorities as identified in the Virginia Tech case are complex and multifaceted. Unfortunately, several of these major risk factors for Cho’s violent behavior were overlooked by counselors at the Virginia Tech Cook Counseling Center who had interactions with Cho (“Mental Health,” 2009). Because different configurations of risk factors are associated with particular behaviors, identifying and understanding these factors can inform effective and relevant intervention and prevention strategies (Gorman-Smith, Tolan, & Henry, 2000). The following sections draw assessment, prevention, and intervention implications for school shootings in relation to the Virginia Tech case.

Micro System

The micro-system-level analysis suggests that assessment must consider the individual’s relationships with parents and peers. Proper assessment
and intervention strategies also require examining gender and mental health status, which are relevant to the individual. Gender-specific issues (e.g., masculinity) and mental health status should be included in the assessment. Educating parents, teachers, and school officials about the early signs of distorted gender images and misconceptions concerning mental health needs to be a part of prevention efforts. Referral and notification systems among schools, mental health professionals, and law enforcement regarding potential perpetrators may be critical.

Depending on the assessment, practitioners should utilize skill-building programs for communication, problem solving, and conflict resolution between parents and youth. The inclusion of parent education programs that enhance prosocial parenting practices (e.g., Doh et al., 2003) has been successful in improving the relationship between the parent and the youth. In addition, assisting parents in creating a supportive, caring family structure would be effective. Interventions should also consider parents’ work-related stress in attempts to enhance parenting practices (Eamon, 2001). Moreover, assessing factors that weaken the parent-child bond can provide needed information for selecting interventions that promote healthy family relationships.

Establishing a safe school environment that promotes a sense of belonging would decrease the likelihood of youth violent behavior. Providing students with social activities is important for developing and maintaining friendships and social support networks. Because teachers and school staff members have the most frequent contacts with youth, teacher and school staff involvement in peer conflict resolution is crucial (Espelage & Swearer, 2003). We also suggest a systematic reporting system for bullying in school and strengthening of multicultural curricula in the classroom, which can foster a sense of school connectedness among Asian and racial minority students and reduce their likelihood of becoming victimized in school. School administrators might develop after-school programs and youth mentoring programs, which have been proven to have positive youth outcomes (e.g., Posner & Vandell, 1994).

Meso System

Negative parent-child relationships may result in negative peer relationships in school, which potentially result in violent behavior. Thus, assessing meso-system-level factors can facilitate selecting the appropriate system in which to intervene (Eamon, 2001). Assessments at the meso-system level need to consider the interrelations between parents and the school and between parents and their children’s peers. Teachers and school administrators need to encourage parents to be involved in their children’s school activities and provide an arena in which parents can meet with teachers and other youth. School administrators should also establish networks for
parents such as parent-teacher associations and other activities where parents can be aware of their children’s academic and social life in school.

**Exo System**

Assessment should include examining the amount of violence viewed by youth, as well as the link between parents’ employment and parenting practices. Schools should incorporate media viewing into school curricula, provide a balanced view on violence via school newsletters and student discussion forums, and develop educational materials for parents about the detrimental effects of exposure to media violence on youth.

**Macro System**

Bonnie and colleagues (2009) argue that more thorough assessments and evaluations of mental health background are necessary. They note that in the Virginia Tech case, although Cho was ordered to undergo outpatient treatment by a judge, he never complied with this order, which went unnoticed. Assessments and interventions are likely to be effective if they are relevant to a family’s lifestyle and cultural beliefs (Eamon, 2001). Although cultural values and practices are difficult to change, proper intervention requires practitioners to assess cultural barriers to seeking mental health services for immigrant families. Practitioners must consider the feasibility of mental health services to their clients’ cultural values and beliefs. Effective intervention strategies should include culturally sensitive psychoeducational techniques, which are designed to facilitate clients’ and their families’ adaptation to mental health services. One study on the effectiveness of a psychoeducation program for mentally ill Korean Americans found that the program enhanced participants’ knowledge of mental illness and available treatment (Shin & Lukens, 2002).

Practitioners should also actively collaborate with school officials to implement a program that addresses gun violence in school. Gun control programs that involve collaboration between schools and the community, such as the Baton Rouge Partnership, have proven to be effective in reducing gun-related violence (Lizotte & Sheppard, 2001). Schools must also enforce strict rules against weapon carrying on school property.

**Chrono System**

Practitioners have little direct influence over chrono-system-level factors, such as historical events and life transitions (e.g., immigration), that may create problems (e.g., violence). However, practitioners and professional organizations must collaborate to advocate on behalf of immigrant youth and families by educating government-elected representatives about the
relations between social conditions and negative outcomes for immigrants. They also must advocate for social services to assist immigrant youth and families in coping with events that create problems within micro systems.

CONCLUSION

Extensive research has been done on school shootings, producing invaluable knowledge, information, and implications. However, many of these studies have focused on the aftermath of the shooting or on interventions rather than etiology or prevention efforts. Racial minorities have been largely ignored by the vast majority of literature on school violence. This study attempted to fill these gaps by reviewing the existing studies, newspaper articles, and commentaries on the Virginia Tech shooting incident, which occurred within the complicated context of multiple social systems. Untangling these complexities requires a comprehensive framework. We utilized ecological systems theory to identify the risk factors at various levels of social systems that were associated with the shooting case. We found this theory to be effective in enhancing our understanding of these risk factors, which have major implications for assessment, prevention, and intervention for at-risk racial minorities.

While most of the risk factors identified can be relevant for various racial and ethnic groups, the dynamics of these risk factors vary among minorities. For instance, micro-level risk factors, such as mental health problems, are interrelated with macro-level risk factors, such as cultural barriers to mental health services. Cho’s parents, like many Koreans in the United States, had to work long hours in order to establish themselves as immigrants, sacrificing crucial interactions with their children. Peer victimization, a micro-level risk factor, might not have led to the shooting had the parents established a strong relationship with their son, the would-be shooter.

We provided several suggestions for practitioners and policymakers based on our understanding of the complexity surrounding this incident. We acknowledge that implementing all of these suggestions may not be practical or feasible. However, one of the strengths of ecological systems theory is that it allows us to start where we are ready to start. The theory posits that any changes in a particular system create entirely different dynamics in all other systems (Bronfenbrenner, 1994). However, it is also true that initiating changes may not be effective without a comprehensive understanding of the complicated interactions among the multiple systems. Ecological systems theory as applied to this study enables practitioners in various fields to utilize information on risk factors and interactions between multiple systems to effectively address the problem of school violence. While much work needs to be done to reduce and eventually end violence in school, an ecological understanding of this case, as demonstrated here, can contribute
not only to a better understanding of this problem but also to developing better approaches.

REFERENCES


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