

Youth Violence Prevention Comes of Age: Research, Training and Future Directions

Kara Williams,¹ Lourdes Rivera,¹
Robert Neighbours,¹ and Vivian Reznik^{1,2}

¹Department of Pediatrics, University of California, San Diego, ²Department of Family and Preventive Medicine, University of California, San Diego, California 92093; email: kjwilliams@ucsd.edu, lrivera@ucsd.edu, rneighbours@ucsd.edu, vreznik@ucsd.edu

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Abstract

Youth violence is recognized as a major public health problem in the United States and the world. Over the past ten years, progress has been made in documenting the factors that contribute to violent behavior. Emerging research is deepening our understanding of the individual and societal influences that contribute to and protect against youth violence. However, much work still remains to be done in this field, both in examining potential causes and in designing effective intervention strategies. This chapter highlights specific dimensions of youth violence prevention selected by the authors because these dimensions are the focus of public attention, are emerging as critical issues in the study of youth violence, or have a unique place in the current political and social context. We focus on the developmental pathways to violence, factors that mediate and moderate youth violence, the role of culture and media in youth violence, school-based violence such as school shootings and bullying, and the training of health care professionals.

INTRODUCTION

“Each year violence causes an estimated 2.2 million injuries and more than 40,000 deaths in the United States—more than two thirds of the fatalities of the Vietnam War.”

—Mohammed Akhter, Executive Director
of the American Public Health
Association (2002)

For the past decade, youth violence has been recognized as a public health issue in addition to its more traditional status as a criminal justice problem. Both public health science and criminal justice literature have reported the pervasiveness of youth violence in our society: No community is immune to its impact (28). Adolescent victims and perpetrators come from a variety of backgrounds, ethnicities, and neighborhoods, cutting across all sectors of U.S. society. The World Health Organization defines violence as “the intentional use of physical force or power, threatened or actual, against oneself, another person, or against a group or community that either results in or has a high likelihood of resulting in injury, death, psychological harm, maldevelopment or deprivation” (57).

In the past, many leading experts involved in the study and treatment of youth violence believed that nothing could be done to prevent the serious youth violence that erupted in the United States in the early 1980s. From 1983 to 1993, arrests of youth for serious violent offenses ballooned by 70%, and the number of adolescents who committed a homicide nearly tripled over the course of the decade. For many, “dire predictions about trends in youth violence yielded to resignation; elsewhere, fear and concern prompted well-meaning officials and policy makers to grasp at any proposed solutions, often with little, if any, systematic attention to questions of the efficacy or effectiveness of those approaches” (28). Fortunately, over the past 20 years, sustained efforts of researchers, practi-

tioners, legislators, and others have led to a better, although still incomplete, understanding of youth violence, its causes, and its potential prevention strategies.

The Centers for Disease Control and Prevention (CDC)'s Youth Risk Behavior Survey reports overall declines in behaviors associated with violence in the United States over the past decade, including the percentage of youth who reported carrying a gun within the past month and those involved in a fight in the previous year (22). In 2001, the number of juvenile arrests for violent crime index offenses was at its lowest level since 1988 (52). **Figure 1** shows the growth and decline in violent crime by juveniles in the United States between 1980 and 2003, which were documented by both victim reports and arrests (87). A dramatic increase in youth violence research has led to many potential explanations for these trends; however, the findings are preliminary and further research is still needed in this area.

Despite these widely publicized decreases in violent crime and violence-related behaviors among adolescents in the United States, the number of youth that are either victims or perpetrators remains high. In a nationwide survey of high school students, 33% reported being in a physical fight one or more times in the 12 months preceding the survey and 17% reported carrying a weapon (e.g., gun, knife, or club) on one or more of the 30 days preceding the survey (22). The World Health Organization's 2002 *World Report on Violence and Health* portrayed youth violence as a global problem, demonstrating that wide variations exist in youth homicide rates between individual countries. Among the countries for which data were available, the rates were highest in Latin America, the Caribbean, the Russian Federation, and countries in southeastern Europe. “Apart from the United States of America, where the rate stands at 11.0 per 100,000, most of the countries with youth homicide rates above 10.0 per 100,000 are either

developing countries or are those experiencing rapid social and economic changes” (57). Such violence among youth is very costly. In addition to causing injury and death, youth violence affects communities by increasing the cost of health care, reducing productivity, decreasing property values, and disrupting social services (63). A recent review estimates that the costs of interpersonal violence in the United States reach 3.3% of the gross domestic product (17).

WHY YOUTH BECOME VIOLENT: DEVELOPMENTAL PATHWAYS TO YOUTH VIOLENCE

Recent research has identified several developmental pathways that lead to violence and delinquency in adolescence and young adulthood (31). Violence takes place along a developmental continuum of behavioral severity; only some children exhibit aggressive behaviors at an early age that escalate gradually over time to more severe crime and violence. Between 20% and 45% of boys and 47% and 69% of girls who are serious offenders at the age of 16–17 are on a “life-course persistent developmental pathway” (28, 57). Youth that fit in this category commit the most serious violent acts and often continue such violent behavior into adulthood.

However, these lifetime offenders represent only a small proportion of those committing violence. Most youth exhibiting violent behaviors do so for a shorter period of time, generally ceasing in adulthood. Young people that fit in this category are called “adolescent-limited offenders” (57). Results from the U.S. National Youth Survey, based on a national sample of youth aged 11–17 who were followed until ages 27–33, show that 75% of young people who committed serious violence ceased their violent behavior after 1–3 years. Most young people who engage in violent behaviors are adolescent-limited offenders, who show little or no aggressive tenden-

cies or other problem behaviors during childhood, and cease to exhibit those behaviors in adulthood (28).

For the majority of these adolescent-limited offenders, situational factors play an important role in promoting violent behavior. The potential for violence develops into real violence owing to the complex interaction of multiple contextual factors which include the motives and location of the behavior, whether alcohol or guns are present, who else is present, and whether other actions such as burglary are occurring simultaneously. Alcohol, firearms, and gangs are key situational factors that can increase the likelihood that youth will become victims or perpetrators of violence (57). For example, higher levels of reported alcohol use are associated with increased levels of carrying weapons and physical fighting, and use of illicit drugs is significantly related to higher levels of bringing weapons to school and gun carrying (61). A large body of research also demonstrates that drug selling, drug use, violent behaviors, and vandalism of property increase significantly when a youth joins a gang (39, 60). Of particular concern is that gang members are shown to possess significantly more guns than other at-risk youth (50).

Exposure to violence is another important situational factor linked to increased risk of violent behavior and suicide (27, 31). A study conducted by Singer et al. (83) with 2000 elementary school-aged children showed that exposure to violence in the past year was the most significant contributor to predicting violent behavior, even after controlling for demographics, parental monitoring, and television viewing habits. Song and associates (88) found that violence exposure and symptoms of psychological trauma together explained more than 50% of the variance in male and female self-reported violent behavior. In addition to community violence, children who are abused or exposed to family violence display more aggressive and violent behavior (27).

RESILIENCY

To understand better the interaction of risk and protective factors, Fergus & Zimmerman (32) propose a series of models based on a resiliency framework. Resiliency is the process of individuals evading the negative impacts of risk exposure. This framework proposes that young people's susceptibility to violent behaviors and other adverse outcomes are influenced by the number and specific nature of stressors they face as well as by the presence of protective factors that can offset the negative effects of risk factors (32, 74). Fergus & Zimmerman (32) identify three models of resiliency: the compensatory, the protective, and the challenge model.

Protective factor:

an element that decreases the impact of a risk factor

Risk factor:

an element that increases the chances of a person acting violently

Ecological model:

a theoretical framework for exploring the effects of multiple levels of influence on behavior

Exposure to violence has been linked to increased rates of depression, stress, fears and worries, aggression, suicidal ideation, anxiety, low self-esteem, post traumatic stress disorder, and self-destructive behavior (31, 40, 43, 70, 80). Flannery et al. (34) found that violent adolescents reported higher levels of exposure to violence and victimizations than did matched controls. Cauffman et al. (21) have also demonstrated that adolescents who engage in aggressive, delinquent, or violent behaviors have higher levels of depression than do less violent youth.

There is also growing evidence of strong associations between bullying/being the victim of bullying and poor psychosocial functioning, including fighting (25, 90). Bullying is defined as "any repeated negative activity or aggression intended to harm or bother someone who is perceived by peers as being less physically or psychologically powerful than the aggressor" (38). About 30% of teens and preteens in the United States are involved in bullying or being bullied (38). Youth who engage in bullying are more likely to have exhibited violent behaviors such as weapon carrying, frequent fighting, and fighting-related injuries (68). Although there is a connection between victims of bullying and violent behavior, several recent studies have found that bullies are more likely to exhibit aggressive behavior (53, 68).

RISK AND PROTECTIVE FACTORS OF YOUTH VIOLENCE

Over the past decade, violence prevention research and intervention development have centered increasingly on risk and protective factors as a way of identifying predictors of violent behavior. This research has focused on determining the events, opportunities, or experiences in young people's lives that may increase or diminish the likelihood of involvement in violent behaviors. The surgeon general defines a risk factor as an element that increases the chances of a person acting violently and defines a protective factor as an element that decreases the impact of a risk factor (28). Risk factors are not set predictors but instead can vary with each individual, his/her developmental stage, and the social environment. There is increasing interest in an alternative approach to defining protective factors that focuses on their ability to moderate or reduce the influence of risk factors (31). To date, protective factors have not been studied as extensively or rigorously as have risk factors, although this is beginning to change. There is mounting use of research designs that examine interactions between risk and potential protective factors (see sidebar).

The field of violence prevention is moving toward the widespread use of the ecological model to identify and conceptualize these elements of risk and protection at the individual, family, school, and community levels (**Figure 2**) (37). The complexity of youth violence requires researchers to examine the totality of adolescent experiences, recognizing the influence of interpersonal, community, and systemic elements that may moderate or mediate the likelihood of violent behavior. Farrell & Flannery (31, 35) note that "risk factors are not solely within the individual but within situations, as well. This is reflected in the social-ecological theories of youth violence that view violence as a joint product of the individual and situational context."

Table 1 Summary of some of the known risk and protective factors (23, 28, 74)

Domain	Risk factor	Protective factor
Individual	History of violent victimization and involvement	High IQ or high grade point average
	Substance use	Positive social orientation
	Antisocial beliefs and attitudes	Religiosity
Family	Low parental involvement	Connectedness to family or other adults
	Low parental education and income	Perceived parental expectations about school performance are high
	Poor family functioning	Ability to discuss problems with parents
Peer/School	Association with delinquent peers	Commitment to school
	Poor academic performance	Involvement in social activities
	Social rejection by peers	
Community	Diminished economic opportunities	Social capital
	Low levels of community participation	
	High level of transiency	

Risk and protective factors, therefore, tend to be categorized by domains of influence: the individual (e.g., high emotional distress; antisocial beliefs and attitudes; involvement with drugs, alcohol, or tobacco), the family (e.g., poor parent-child relations, parental substance abuse or criminality), school (e.g., poor attitude and performance), peer group (e.g., involvement in gangs), and community (e.g., social cohesion, neighborhood crime) (31, 74). Several articles have summarized the volume of work that has been conducted in this area and identified consistent patterns of findings across studies (27, 28, 31, 46, 57, 74). **Table 1** lists some of the known risk and protective factors.

One important challenge facing researchers, practitioners, and policy-makers is developing a greater understanding of how youth culture and social contexts relate to risk and protective factors for violent behavior. In particular, learning about and utilizing the unique resources in youth social networks may strengthen protective factors, while also informing strategies to reduce risk factors and risky adolescent behaviors, such as weapon carrying and substance use (74).

Research examining the risk and protective factors for special populations has begun

to emerge, focusing particularly on girls and minority youth. Between 1993 and 2002, arrests of adolescent girls generally increased more, or decreased less, than did arrests of boys in violent offense categories (86). However, although increasing arrest rates can be due to an increase in crime, they can also be due to society's greater willingness to report crime or to a greater number of law enforcement contacts resulting in arrest (86). Although there is a popular belief that violence by girls is increasing, the true extent of girls' violence is unknown (65). Even with increases in arrest rates, girls accounted for only 24% of juvenile arrests for aggravated assaults in 2002 (86). Molnar and colleagues' (66) study of urban girls' experiences with violence highlighted factors such as peer risk-taking behavior, history of victimization and trauma, and residence in impoverished, severely violent neighborhoods with low cohesion. They found that the girls developed five strategies to stay safe: staying at home, staying away from dangerous people, being involved in extracurricular activities, staying calm, and fighting to prevent future fights. Three protective resources for adolescent girls were also identified: mothers and family, friends, and prosocial activities.

Social capital: a concept that refers to the rules, norms, obligations, reciprocity, and trust that exist in social relations and institutions

Researchers studying risk and protective factors are also beginning to examine youth of color. In a study of African American young adults, Caldwell and associates (18) identified racial discrimination as a strong risk factor of violence, regardless of gender. They also noted that racial identification and the cultural meaning attributed to being black served as protective factors against racial discrimination's effect on violent behavior. The Culture and Violence Section of this chapter presents further discussion of the role of culture in youth violence.

Researchers have focused on risk and protective factors primarily at the individual level; however, it is now clear that the community has a profound influence on youth behavior. One conceptual model for looking at the relationship between community and youth violence activity is social capital. Social capital is a concept that refers to the rules, norms, obligations, reciprocity, and trust that exist in social relations and institutions. Young people living in places that lack social capital tend to perform poorly in school and have a greater probability of dropping out (5, 59). Wilkinson et al. (99) showed that indices of social capital reflecting low social cohesion and high levels of interpersonal mistrust were linked with both higher homicide rates and greater economic inequality.

Growing evidence indicates that communities with high social capital are key to the success of community-based interventions (12, 29, 30, 77). Over the past 10 years, more effort has been made to involve communities in the design and implementation of youth violence prevention programs (11, 29). Grass-roots community organizing and development are being recognized as important components for successful reduction of crime and improvement of neighborhood safety (11, 42).

WHAT WORKS: EVALUATING PROGRAM EFFECTIVENESS

Arguably the most important lesson that has been learned to date about youth violence is

the complex nature of the problem. A great deal of work must still be done in this area, particularly in designing and evaluating effective intervention strategies. Communities are under pressure to respond to concerns about youth violence and implement youth violence prevention programs. Yet reviews of these programs have concluded that "few that have been evaluated meet even minimum standards of effectiveness," in part owing to inadequate funding and poor research designs. Much more rigorous evaluation research is needed on community-based programs to determine which strategies produce the best results. Several reviews provide detailed information about a wide variety of prevention programs that have been developed and their level of effectiveness (31). In addition, there are now nationally recognized tools that can be used to assist in evaluating violence prevention and intervention programs. The CDC's *Best Practices of Youth Violence Prevention: A Sourcebook for Community Action* examines the effectiveness of specific violence prevention practices in four key areas: parents and families, home visiting, social and conflict resolution skills, and mentoring (93). The Blueprints for Violence Prevention project has identified 11 prevention and intervention programs that meet a strict scientific standard of program effectiveness and have been effective in reducing adolescent violent crime, aggression, delinquency, and substance abuse. Another 18 programs have been identified as promising programs (1). The CDC's *Measuring Violence-Related Attitudes, Behaviors, and Influences Among Youths: A Compendium of Assessment Tools* provides researchers and prevention specialists with more than 170 measures to assess risk behavior and to evaluate programs to prevent youth violence (26).

EMERGING RESEARCH

The following section highlights specific dimensions of youth violence prevention selected by the authors for their timeliness, relevance, and potential impact on the field.

The following topics have been chosen because they are the focus of public attention, are emerging as critical issues in the study of youth violence, or have a unique place in the current political and social context. Culture and violence are included because the disparity of violent perpetration and victimization among different ethnic groups demand further attention and study. The increasing exposure of youth to media violence has become a new area of research with potential for producing innovative strategies for prevention and intervention. School shootings have received high-profile media attention and have generated enormous anxiety among youth, parents, and professionals, yet they remain understudied. Training of health professionals as a primary prevention strategy is a mandate from the World Health Organization and the U.S. surgeon general because youth violence is a burden on the health care infrastructure and because health professionals have numerous opportunities for intervention in the life of an adolescent or child.

Culture and Violence

Although the rates of juvenile violent crime are falling, rates of violence among cultural minorities in the United States are still disproportionately high. Victimization and perpetration rates are highest among African American youth. Available statistics show that the African American juvenile violent crime arrest rate is still four times higher than that of white youth, and the juvenile arrest rate for drug abuse violations is double the rate of white youth (69). Police profiling is sometimes assumed to account for some of the racial and ethnic differences in arrest rates, but there is currently not enough evidence to support this hypothesis. Recent literature on police profiling focuses mostly on police traffic stop data, and statistics show that stopping more minorities does not turn up more drugs or criminals; in fact, income inequality is a bet-

ter predictor for white and non-whites arrests (85, 98).

Latinos also face a disproportionate percentage of violence-related morbidity and mortality; yet most official criminal statistics identify only black, white and "other" categories, which makes it difficult to find reliable data to explore the implications of ethnicity for youth violence prevention. In addition, even when Latinos are specifically addressed, the lack of consistent terminology to discuss ethnicity and culture makes comparisons of different data sources problematic. For example, new arrest reports are based on data from the FBI and population data from the U.S. Census Bureau, which includes Hispanics/Latinos as white according to the new census classification for race and ethnicity (69). This finding has become a big problem given the rapid population increase of Latinos in the United States over the past few decades.

Recent research has begun to focus on cultural differences and their implications for violence prevention efforts. Researchers have proposed different theories to explain the increase of violence among minority youth, but no single theoretical approach appears to explain the disparity (45). Because the presence of poverty in the United States disproportionately affects members of underrepresented minority groups, a large number of studies have focused on social and economic factors to explain the increase in violence among minority youth (15, 79, 91). Some studies link racial disparities in violent outcomes to differences between white and minority economic conditions. According to this explanation, ethnic minority youth may be more vulnerable to violence because they are more likely to live in poverty and have access to fewer resources, as well as face discrimination, both of which increase the risk for engaging in violent acts (56, 79). However, not all adolescents that grow up in impoverished environments participate in violent acts; thus, a large number of studies have focused on potential risk and protective factors that may contribute to better

understanding of the etiology of youth violence (33, 78).

In *Preventing Youth Violence in a Multicultural Society*, Guerra & Smith (41) note that ethnicity and culture can increase or decrease risk for youth violence, emphasizing the interaction of individual risk factors with environmental conditions associated with ethnicity and culture. Recent studies have documented that culture can be seen as both risk and protective factors for youth violence across ethnic groups (62, 64, 84). The main focus of this emerging field is to reduce risk factors and strengthen the cultural protective factors in the lives of at-risk youth. The goal is to enhance cultural competence through interventions developed for specific ethnic groups. Hudley & Taylor (47) report how cultural competence can be incorporated into youth violence prevention programs and provide a guideline on how to develop an effective program. Cultural competence is described as “the recognition of one’s cultural beliefs and practices, an appreciation of other cultural systems, and the skills needed to work effectively across cultures” (47).

Other studies stress the role of ethnic identity, in particular, as a protective factor in youth violence and its implications for prevention. For example, high levels of ethnic identity are linked to low drug use (13, 14, 96). Some researchers believe that ethnic identity is a protective factor because it is associated with conflict management styles that avoid conflict (94, 95). French and colleagues (36) presented two models of ethnic identity development and tested their association with delinquency. They found that “ethnic identity can serve as a protective factor to promote healthy adjustment, helping minority youth overcome the effects of a hostile environment.” Soriano et al. (89) also found that ethnic identity and bicultural self-efficacy can be potential protective factors for youth violence. They described bicultural self-efficacy as “the extent to which ethnic minorities are able to act with confidence and acceptance of their own cultural background while holding

some level of appreciation of the dominant cultural group within major life domains.”

On the basis of these new findings, future violence prevention programs need to consider incorporating culturally specific strategies for ethnic youth to reduce their risk for violence. Strategies that focus on cultural competence, ethnic identity, and bicultural self-efficacy are promising and need further study.

Media Violence

Despite the overall decline in youth violent victimization and perpetration in the United States over the past two decades, youth have not experienced a comparable decrease in their exposure to violence. Rather, the recent proliferation of newer forms of media such as video games, the Internet, and mobile devices has increased children’s opportunities for exposure to violence (57). Children in the United States today have unprecedented access to both new and traditional media, often within their own bedrooms: Two thirds of children aged 8 to 18 years (68%) have a TV in their bedroom; approximately half (54%) have a VCR/DVD player and a video game player (49%); and nearly one third (31%) have a computer in their room (75, 76). Yokota & Thompson (101) reviewed all G-rated films produced for release in the United States between 1937 and 1999 and found that every film contained at least 1 act of violence. Huston et al. (51) describe how by the age of 18, the average American youth will have viewed 200,000 acts of violence on television.

In a survey of parent attitudes, most are concerned that their children are being exposed to too much sexual content, violence, and adult language. Sixty percent of parents reported that they are “very” concerned that their children are being exposed to too much sexual content in the TV shows they watch, 53% are “very” concerned about violent content, and 49% expressed concern about adult language. Parents in general are not aware of the American Academy of Pediatrics (AAP)

recommendation that children under 2 years old not watch television. Parents favor public policy to regulate sex and violence on TV during early evening hours (63%), but only 15% of parents surveyed have used the V-chip, a mechanism used to regulate the viewing of television programs (75).

The influence of media on the behavioral development of children is documented primarily through research on television. Bushman & Huesmann (16) found that violent media exposure produces short- and long-term effects in both children and adults. Some effects, such as increased heart rate and blood pressure and other physiological evidence of arousal in behavior, are immediate, but they tend to be temporary. For example, according to Bandura (6, 7) children who observe others exhibiting aggression are more likely to perform the same aggressive act immediately.

The long-term effects of media on children's violent behavior, however, are delayed but more enduring. Such long-term increases in children's aggression are now generally agreed to be a consequence of their learning the behavior through observation, even of fantasy characters (16). Observational learning is an extension of imitation, which may explain how children develop a view of the world that accepts aggression as an appropriate response to complex problems (3, 6, 48). These beliefs are reinforced with chronic exposure to media where violence is perceived as acceptable and without consequences, and these behavior patterns are quite resistant to change (49).

Through classical conditioning, fear or anger can become linked with specific stimuli after only a few exposures (19, 44). Repeated exposure to violent images can lead to diminished emotional reactions so that violent scenes become less arousing over time, in a process called desensitization (24). Behaviors that might seem unusual to the child viewer at first will begin to seem more normative after repeated presentations. Even brief exposure to media violence can reduce

physiological reactions to real-world violence (92).

Bushman & Huesmann (16) examined violent media exposure (e.g., TV programs, films, video games, music, and comic books) and aggressive behavior, aggressive cognition, aggressive affect, physiological arousal, and helping behavior in a meta-analysis of 431 studies involving 68,463 participants. They found that infrequent exposure to media violence is not likely to produce lasting consequences, although watching violent acts may increase aggression in the short term for both adults and children. Long-term effects, when they occur, are most likely to affect children. The authors recommended that parents limit repeated exposures to violent video games or immersion in violent TV programs to avoid potential aggressive behavior in children.

The size of the long-term effect from violent exposure depends on the extent to which the child perceives the violence as credible, justified, and rewarded, as well as on how much the child identifies with the perpetrator. In this respect, Bushman & Huesmann (16) note that action heroes may be more dangerous teachers of violent behavior than are villains. Further research is needed to define better the physiologic, structural, and neuropsychological changes seen with chronic violent media exposure.

School Shootings

School shootings have received a disproportionate amount of media attention in the United States over the past 10 years. Although high-profile school shootings have increased public concern for student safety, school-associated violent deaths account for less than 1% of homicides among school-aged children and youth. From 1992 to 2001, 35 incidents occurred in which students shot others at school or at school-sponsored events (4). Violent events such as the one in 1999 at Columbine High School in Littleton, Colorado, and the two consecutive school shootings in San Diego county in 2001 are examples

of high-profile fatal incidents on school campuses.

The public has been anxious to understand this behavior and especially interested in how to predict which young adults will become school shooters. In 2000, the Federal Bureau of Investigation's National Center for the Analysis of Violence Crime looked at 18 school shooting cases, including four cases during which police and school officials detected and pre-empted planned school violence. Although many common risk factors existed, including poor coping skills, access to weapons, depression, drug and alcohol use, alienation and unlimited television or Internet use, there was no reasonable way to use this information to profile students or predict behavior (71). In many cases, however, the shooters shared their plans with peers. A two-year study of school shootings conducted by the U.S. Secret Service for the Department of Education showed that attackers had told someone of their plans in 75% of the 37 school shootings since 1974 (97).

Although the epidemic of youth violence peaked in 1993, these incidents occurred in urban and suburban neighborhoods in which the residents thought of themselves as insulated from lethal youth violence. In response to public outcry, U.S. congress requested that the National Research Council of the Institute of Medicine (NRC) study the phenomenon of school shootings between the years 1997 and 1999. Their Deadly Lessons Report describes the differences and similarities found in urban and suburban communities in which school shootings occurred (67).

In the urban environments, social and physical conditions created a milieu for the development of youth violence. The shootings involved specific grievances between individuals known in the schools' communities. In contrast, the suburban and rural schools were located in thriving communities, with a high degree of social capital, and were experiencing relatively low levels of crime and violence. The shooters had a general sense

of alienation not understood by those around them. In the suburban cases, the shooters were boys who associated with delinquents; exhibited recent changes in behavior; had serious, unrecognized mental health problems; and had easy access to guns. They were not considered to be high risk for violent behavior by adults who knew them (67).

However, there were striking similarities among all the shooting environments. In five of six communities studied, there had been rapid social change in the recent past. Deadly Lessons identified a significant gulf between adults and the prevailing youth culture:

Parents and most teachers had a poor understanding of the children's exposure to changing community conditions and the intense concern the shooters had about their social standing in school and among their peers. . . . The social dynamics of adolescence in these communities were almost entirely hidden from adult view (67).

The community response was similar in almost all the cases: The shooters were treated as adults by the justice system and received long sentences. The communities involved recognized that social climate contributed to the events and tried to improve communication between adults and youth.

In San Diego, Palinkas and associates (72, 73) had the opportunity to investigate firsthand the effect of two consecutive school shootings on the community in 2001. Using the rapid assessment procedures (RAP) ethnographic approach, 85 community members were interviewed immediately following the shootings. As in other urban and rural communities, early identification of the shooters' problems and social ostracism existed prior to the violent events. A social hierarchy in the school environment that included marginalized and mainstream student groups contributed to the shooters' sense of alienation. The authors found wide variability in community perceptions of

whether youth violence can be prevented. The study recommended community participation in program development, implementation, evaluation, and continuation for violence prevention programs to be successful.

Training and Education

Recognizing that youth violence is a public health problem, many researchers have begun to engage the health sector in the development and implementation of strategies to treat and prevent youth violence. As Dahlberg and colleagues (26) commented, there is the need to make explicit the “central yet frequently overlooked role of the health sector in preventing such violence and treating its victims.” Two recent needs assessments have been performed concerning education on injury in health care. The American Association of Medical Colleges (2) in collaboration with the CDC showed that slightly more than 25% of the accredited allopathic medical schools in the U.S. report required coursework in topics associated with injury. The Association of Schools in Public Health (ASPH) assessed injury training and research in schools and departments of public health and identified important needs including faculty recruitment with expertise in injury, expanded curricula, and funds for faculty training and development (2).

The American Medical Association (AMA), AAP, and the American Academy of Family Physicians (AAFP) have developed policy statements that call for health professionals to incorporate youth violence prevention into their practices. The AAMC (2) concluded that “a better prepared physician workforce may result in improved coordination and collaboration with public health colleagues who work in injury.” The Institute of Medicine’s *Reducing the Burden of Injury: Advancing Prevention and Treatment* recommends strengthening capacity for research and practice to develop new knowledge and translating it into practice in the

field of injury reduction (9). Several national centers are funded to increase research and education in injury: Injury Control Research Centers, National Academic Centers of Excellence in Youth Violence Prevention, and National Institutes of Occupational Safety and Health Education, all of which are housed or affiliated with medical or public health schools.

Primary care providers acknowledge their role in the prevention of intentional injuries because they are often faced with the consequences of injury. In a survey of 1632 members of AAP, Barking et al. (8) reported that more than one third of providers reported treating a child with an injury resulting from domestic or community violence. Physicians, community leaders, and parents perceive a critical role for pediatricians in preventing youth violence. There is physician willingness and desire to intervene, but actual participation in routine prevention behavior and practices such as screening, counseling, and referral are less common (8, 10, 20).

Wright (100) described the importance of and need for developing effective educational tools for health professionals in youth violence prevention. He recommended that there be “a discrete set of core competencies that any health or public health professional should possess regardless of discipline.” In line with this recommendation, several efforts are underway to implement innovative training in core competencies for effective practice in youth violence. Hopefully this will lead to a new generation of health care professionals that will incorporate these strategies into their primary care practice, hospital, and emergency room care (54, 55, 58, 82, 100).

One example of a curriculum that has been developed to translate these competencies into practice is the Massachusetts Medical Society Violence Prevention Project. They have produced parent information cards in English and Spanish, a clinical guide, and online training resources and have demonstrated a large number of end users, including school

districts and community and governmental agencies (81).

CONCLUSION

Youth violence is a major public health problem in the U.S. and the world. Although we have begun to examine the causes and implications of youth violence in our communities, some promising areas of research may further inform our primary prevention efforts. In particular, more research is needed in the role of protective factors, media, and culture in influencing adolescent potential for violent behavior. This research needs to be translated more effectively into community practice so

that program design and implementation reflect the latest findings and knowledge of the field. Investments should also be made to evaluate these efforts better. Health care professionals need to be trained, engaged, and mobilized to participate at all levels of violence prevention, from clinical practice to program development to public policy. Youth violence is a complex, multifactorial issue that affects diverse communities throughout the nation. No single solution or program can fully address the problem. Preventing youth violence, therefore, will require better research, training, and programs that address the individual characteristics as well as the environmental influences affecting the lives of young people.

SUMMARY POINTS

1. Despite widely publicized decreases in violent crime and violence-related behaviors among adolescents over the past two decades, the number of youth in the United States who are either victims or perpetrators remains unacceptably high.
2. Most youth exhibiting violent behaviors do so for a short period of time during adolescence, and these behaviors are greatly influenced by situational factors.
3. The field of violence prevention is moving toward use of the ecological model to identify and conceptualize risk and protective factors at the individual, family, school, and community levels.
4. Much more rigorous evaluation research is needed on community-based violence prevention programs to determine which strategies are most effective.
5. Future violence prevention programs should consider incorporating culturally specific strategies for ethnic youth to reduce their risk for violence.
6. Young people are inundated with violent images from a variety of media; chronic exposure may lead to negative behavior outcomes mediated by desensitization and observational learning.
7. Striking similarities have been found among school shootings, including rapid social change in the recent past and a significant gulf between adults and the prevailing youth culture.
8. Health care professionals need to be trained, engaged, and mobilized to participate at all levels of violence prevention, from clinical practice to program development to policy.

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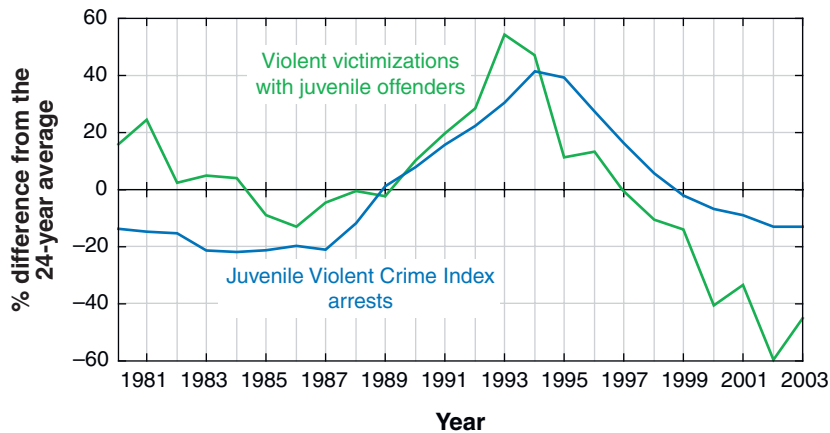


Figure 1

The growth and decline in violent crime by juveniles in the United States between 1980 and 2003 (87).

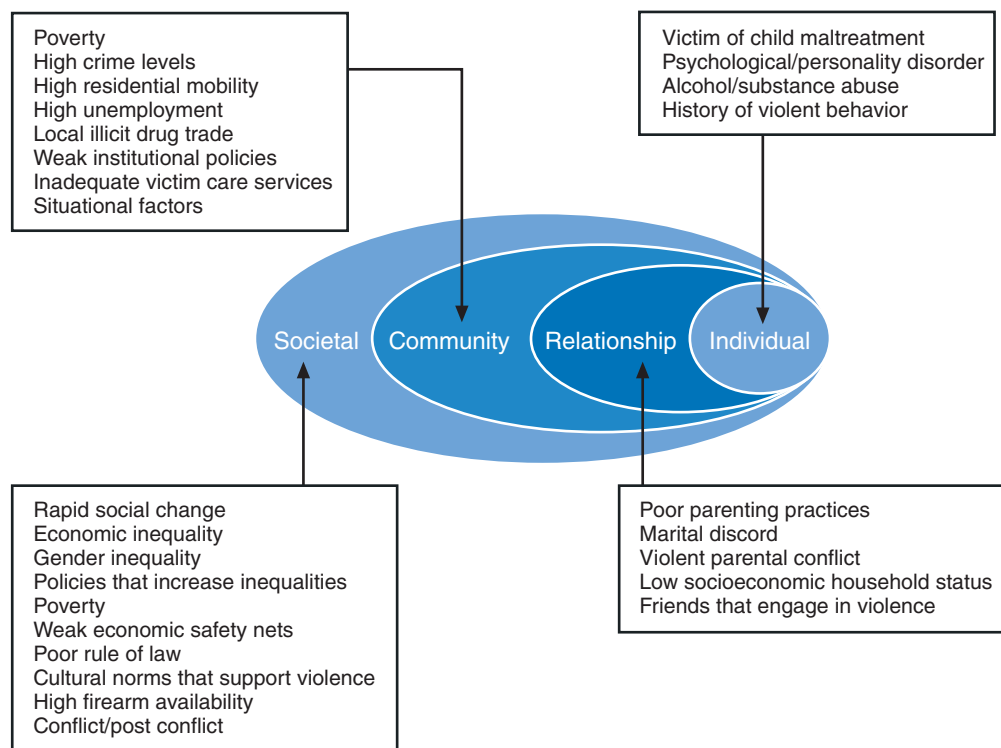


Figure 2

Ecological model showing shared risk factors for subtypes of interpersonal violence (17).



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