

Violence Prevention, Factors Related to Violence, and Treatment Programs Part 2

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IV. School-Level Factors Related to Violence

Bullying and Cyberbullying

As defined by a recent consensus process held by the Centers for Disease Control and Prevention (CDC), bullying is unwanted aggressive behavior that is characterized by a power imbalance between the aggressor(s) and the target(s) and is repeated, or has the potential to be repeated, over time (Gladden et al., 2014). Bullying is both a form of violence in and of itself, as well as a risk factor for other more-serious forms of violence (Nansel et al., 2003). In addition, any bullying involvement, including as the target, aggressor, or witness, has been linked to significant negative academic, social, psychological, and behavioral outcomes that may persist from childhood into adulthood (Bogart et al., 2014; I. Rivers et al., 2009)

Bullying can take several forms, including physical, verbal and relational or social bullying, and can be either direct-- in the presence of the targeted youth--or indirect, that is, behavior not directly communicated to the targeted youth (Gladden et al., 2014). Bullying can also occur in a variety of contexts, including through electronic technology. The CDC identified that cyberbullying is often not a separate form of bullying but rather a context in which more traditional bullying behaviors can be enacted. Emerging research also suggests a high level of overlap between contexts, with 84 percent of those who reported being cyberbullied in 2009 also reporting being bullied through more traditional means (Robers et al., 2013).

Generally, nationally representative statistics indicate that between 20 and 30 percent of students report being bullied (Kann et al., 2014; Robers et al., 2013), and 15 percent report bullying others (DRC-CAH, 2012). Bullying involvement appears to peak in early adolescence, and a national study of middle and high school students suggested that the highest rate of bullying occurred in 6th grade (Neiman, 2011; Stuart-Cassel, Terzian, & Bradshaw, 2013). Although rates of bullying victimization have been relatively stable from 2005 through 2011, differences emerge in different forms of bullying. Rates of physical bullying victimization among children ages 12-18 have decreased from 9 percent in 2005 to 8 percent in 2011, while rates of social bullying victimization (being the subject of rumors and excluded from activities on purpose) have increased from 15 percent to 18 percent and from five percent to six percent, respectively (Robers et al., 2013).

There are barriers to addressing bullying that are unique to social bullying. Namely, teachers are both unlikely to identify relationally aggressive behaviors as bullying and unlikely to be aware of the behavior should it occur (Catherine P. Bradshaw, Sawyer, & O'Brennan, 2007; Craig, Henderson, & Murphy, 2000; Naylor et al., 2006; Temkin, 2010). Children may also be more hesitant to report social bullying or may be more likely to think they should deal with the bullying without assistance from adults (Catherine P. Bradshaw et al., 2007).

Similarly, addressing cyberbullying also poses unique challenges. Although rates of cyberbullying on nationally representative surveys continue to be significantly lower than in-person bullying -- nine percent for children ages 12-18 and 16 percent for high school students (Kann et al., 2014; Robers et al., 2013) -- cyberbullying is increasingly of concern for both parents and schools (Sabella, Patchin, & Hinduja, 2013). A review of studies of cyberbullying suggests that these behaviors are most frequent during 7th and 8th grade and that, while it may continue throughout adult life, cyberbullying becomes less frequent after late adolescence (R. Slonje, Smith, & Frisén, 2013). Schools often struggle with both their ability and obligation to address incidents of cyberbullying that occur off-campus and students are less likely to report cyberbullying to an adult than they are in-person forms

(P. K. Smith et al., 2008). Additionally, cyberbullying may be more malicious due to the anonymity and emotional distance inherent in electronic communications (R. Slonje & Smith, 2008). Additional research is needed to fully explore the differential consequences of cyberbullying versus other contexts of bullying.

Regardless, ample research demonstrates that bullying is linked to several negative outcomes for those bullied, those perpetrating bullying, and those who witness bullying, including decreased academic achievement, depression and anxiety, and substance use as well as more violent outcomes of suicide, criminality, and violence towards others (Hawker & Boulton, 2000; Juvonen, Wang, & Espinoza, 2011; Young Shin Kim et al., 2006; Ttofi et al., 2011).

Gender Differences

Generally, the literature has identified boys as being both more likely to engage in bullying perpetration and be victimized (Cook et al., 2010). However, national statistics indicate a slightly higher victimization rate for girls than boys in 2011 – 31 percent and 25 percent, respectively. This may be reflective of the increasing rates of social bullying and decreasing rates of physical bullying. Although both boys and girls use social aggression, girls tend to utilize proportionally more social bullying than other forms (Card, Isaacs, & Hodges, 2008).

Racial Differences

There is limited exploration into ethnic and racial differences in relation to bullying and current literature paints a complex picture of the role of ethnicity and race in bullying that may be largely dependent on the broader demographic context (Garandeau, Wilson, & Rodkin, 2010). National statistics indicate that white students are more likely to experience bullying victimization than all other groups (31.5 percent versus 27 percent for youth who are black, 22 percent Hispanic, and 15 percent Asian).

Risk Factors for Bullying Perpetration

Meta-analyses of the literature indicate several individual risk factors for bullying perpetration, including externalizing behaviors, negative thoughts about others, negative thoughts and beliefs about oneself, and engagement in delinquent behavior such as tobacco or alcohol use (Cook et al., 2010; Naylor et al., 2006). Emotional intelligence deficits in areas such as emotion perception, emotion regulation, and empathy have also been linked to bullying behaviors (Knowler & Frederickson, 2013).

At a contextual level, family dynamics, peer relationships, and school climate all play a role in the risk for bullying preparation. For families, a lack of parental warmth or a weak emotional bond is linked to increased bullying perpetration (Rigby, Slee, & Cunningham, 1999). Additionally, an authoritarian parenting style, which is typified by the use of harsh punishment and control, has also been linked with increased bullying perpetration (D. Schwartz et al., 1997); however other studies suggest that when other individual and contextual factors are controlled for, parental environment is no longer significant (Veenstra et al., 2005). Familial relationships and structures beyond those directly with the child additionally affect the likelihood of bullying involvement. Children from single-parent households and highly turbulent and discordant two-parent households are more likely to engage in bullying behaviors (Nickerson, Mele, & Osborne-Oliver, 2010). Those who are both bullied and bully others are more likely to be exposed to marital conflict (D. Schwartz et al., 1997).

In a nationally representative study, however, two-parent households were only a protective factor for White students (Spriggs et al., 2007).

At the peer level, having aggressive friends is a significant risk factor for later bullying perpetration (D. L. Espelage, Holt, & Henkel, 2003); however peer influence related to bullying perpetration may be more nuanced. Emerging research suggests that those who are not the most popular, but on the verge of becoming so, are the most likely to engage in bullying behavior, suggesting that bullying may actually play a social function in their peer networks (Faris & Felmlee, 2011).

Risk Factors for Bullying Victimization

Meta-analyses of the literature indicate that, at the individual level, low peer status, having few friends, and low social competence are the strongest risk factors for bullying victimization (Cook et al., 2010). Individual factors such as race, sex, gender identity, sexual orientation, and personal appearance, among others, have also been identified as increasing risk (D. Espelage, 2011; Swearer, 2011) although contextual considerations such as the population makeup of schools and communities and school norms may mitigate this risk (Graham et al., 2009). Family dynamics also play a role in risk for bullying victimization. Specifically, bullying victimization is linked with overbearing and overprotective parents characterized by psychological control and coercion (Nickerson et al., 2010; Perry, Hodges, & Egan, 2001).

Co-Risk Factors: Relation between Bullying and Other Forms of Violence

Involvement in bullying, whether as a target or a perpetrator, has been linked to several forms of violence, including those directed at self (e.g., suicide) as well as those directed at others.

Both bullying victimization and bullying perpetration are linked to an increase risk for suicidal ideation and behavior, with the highest risk for those who both perpetrate and are victimized (Y. S. Kim & Leventhal, 2008; Klomek et al., 2013). The pathways that lead from bullying to suicidal ideations and behaviors are not yet fully understood, however some evidence suggests a small but significant link between bullying victimization and suicide even after controlling for mental health and delinquency (D. L. Espelage & Holt, 2013). It should be noted, however, that the majority of recorded youth suicides do not identify bullying as a precipitating factor (Karch et al., 2013) and the majority of youth who are bullied do not report suicidal ideation or behaviors (Wagman Borowsky, Taliaferro, & McMorris, 2013).

Likewise, both bullying victimization and bullying perpetration are linked to an increased risk for other types of violence towards others. Those who are bullied have a somewhat increased risk for perpetrating some form of violence. One study identified victimization with a higher risk for carrying a weapon, fighting, and sustaining an injury from a physical fight ten months later for teens, and it was associated with committing some form of violence later in life for both elementary-age children and teens (Nansel et al., 2003; Ttofi, Farrington, & Lösel, 2012). These relations, however, may be mitigated by existing tendencies for aggression and violence. In at least one study, bullying victimization only increased risk of weapon carrying for those adolescents who had already displayed aggressive tendencies (Dijkstra, Berger, & Lindenberg, 2011).

Bullying perpetration, on the other hand, is a strong risk factor for both short- and long-term violence (Nansel et al., 2003; Ttofi et al., 2012). Emerging evidence suggests a causal pathway between bullying perpetration in late childhood and early adolescence with teen dating violence perpetration in middle and late adolescence (D. L. Espelage et al., 2014). Further, meta-analyses

suggest a strong relation between bullying perpetration and later criminality, even after controlling for other risk factors (Ttofi et al., 2011).

Protective Factors for Bullying and Bullying Victimization

Social and emotional strengths, familial factors, such as parenting style, and positive peer relationships can serve as protective factors against bullying perpetration and victimization. At the school and classroom level, having strong, pro-social norms against bullying is a protective factor as is a positive school climate characterized by perceived social-emotional safety and positive relationships (Henry et al., 2000; Stuart-Cassel et al., 2013).

Interventions and Promising Practices to Prevent Bullying

There are several programs and practices intended to prevent and/or intervene in bullying behavior, nearly all of which focus on the school setting for delivery and operate at a universal, or primary, prevention level. Few of these programs, however, have been systematically evaluated for their efficacy or effectiveness, and many fail to target known risk and protective factors (D. L. Espelage & Holt, 2013). For those programs that have been evaluated, effects are mixed. According to a comprehensive meta-analysis, bullying programs can decrease bullying perpetration by 20 to 23 percent and victimization by 17 to 20 percent, but these results have not been achieved in the United States (Ttofi et al., 2011). These programs, such as the *Olweus Bullying Prevention Program*, primarily focus on establishing consistent policies, creating anti-bullying norms throughout the school and amongst the school community, engaging in continuing conversation and education about bullying, and increasing monitoring of hot spots, but do not specifically discuss issues of bias, diversity, or social and emotional skills (D. L. Espelage & Holt, 2013).

Increasingly, however, bullying prevention is being incorporated into social and emotional learning frameworks which aim to prevent bullying by improving social and emotional skills. Two such programs, *Second Step* and *Steps to Respect*, have both demonstrated some reductions in bullying behavior and other related behaviors and attitudes, though results have been mixed and are generally modest and limited to physical, rather than social or verbal, forms of bullying (E. C. Brown et al., 2011; Cooke et al., 2007).

Similarly, other emerging programs focus on building emotional intelligence in an effort to prevent bullying among a number of other negative outcomes. One such program evaluated in the UK found that after twelve weekly sessions, 8 and 9 year old children with low baseline emotional intelligence experienced both a significant increase in emotional literacy and a significant decrease in bullying behaviors as compared to their peers on the waiting list (Knowler & Frederickson, 2013). In the US, the *RULER Approach* is similarly using emotional intelligence as a means to help reduce conflict and other negative behaviors among elementary school youth. Although initial evaluations did not specifically measure effects on bullying, *RULER* had significant effects on improving observed positive school climate (S. E. Rivers et al., 2013).

Although promising programs are emerging, there remain few proven programs for preventing bullying. The majority of programs that have demonstrated results have either never been tested in the United States or have mixed or negative findings (Ttofi et al., 2011). Further, nearly all existing programs are limited to elementary- and middle-school aged youth. Efforts have been made to adapt and test the *Olweus Bullying Prevention Program* for high school aged youth, but initial results are not promising (Losey, 2009).

Summary: Bullying and Cyberbullying

- Bullying can take on many forms, such as physical or relational bullying, and occur in a variety of contexts, including school and via electronic technology
- Both bullying perpetration and victimization are related to other violent behaviors, however the relation may not be causal. Most involved in bullying victimization and/or bullying perpetration will not engage in more extreme forms of violence.
- There are a number of programs designed to target bullying or social and emotional skills that relate to bullying, although more extensive evaluation of the effectiveness of such programs is warranted
- Programs targeting social and emotional skills, such as Second Step, can help to promote social and emotional factors that protect against bullying behaviors

Antisocial Peers

The role of peer relationships in various social, emotional, and cognitive outcomes has been well-documented (Deptula & Cohen, 2004). As such, peers play an important role in promoting, or hindering, positive outcomes, with antisocial peer relationships having a strong link to negative outcomes. Antisocial behavior generally refers to aggression and rejection for school-aged children and to delinquency for adolescents (Deptula & Cohen, 2004). Aggression is commonly defined according to the intent underlying a harmful act, and can fall into a number of subcategories, such as physical or relational aggression. Delinquency is generally defined in terms of behavior that violates institutional norms and expectations, such as theft and sexual offenses. Whereas aggression and delinquency relate to one's own behavior, rejection relates to one's sociometric status and reciprocal friendships, with rejected children having fewer nominations for being most liked and more nominations for being least liked. Given the importance of peer relationships, it is important to consider how peers' antisocial characteristics relate to one's own antisocial behaviors and engagement in violence.

Overall, relationships with anti-social peers have been linked to various violent outcomes, including moderate relations to delinquency and crime and gang violence and small relations to intimate partner violence. Researchers examining violent outcomes have considered how specific aspects of peer relationships, including interactions and friendships with antisocial peers (Deptula & Cohen, 2004; Ingoldsby & Shaw, 2002), peer delinquency (Bernat et al., 2012; Gifford-Smith et al., 2005), and peer violence (Baron, 2003; Henneberger et al., 2013), relate to one's own engagement in such behaviors.

Interactions and friendships with antisocial peers have been linked to increased antisocial behavior (Deptula & Cohen, 2004; Ingoldsby & Shaw, 2002). Friendships with aggressive peers have been found to increase one's own aggressiveness, especially among preschool and elementary-aged students. Interestingly, friendships with aggressive peers have been linked to one's social-information processing; a review of literature revealed that such friendships increased the amount of aggressive solutions to hypothetical scenarios generated by children despite whether they themselves were aggressive (Deptula & Cohen, 2004). Poor friendship quality, in combination with prior delinquency, is especially predictive of delinquent behavior. Indeed, friendships, and the quality thereof, influence antisocial and violent behavior.

On a different end of the spectrum, lack of close friendships and other relationships, particularly among boys, has also been linked to violent behaviors, such as drug use, suicide, or violence towards

others. Experiencing rejection from peers is associated with fighting and other disruptive behaviors (Deptula & Cohen, 2004; Dodge et al., 2003). Such social isolation fosters feelings of inadequacy, envy, and anger, which relates to violent thoughts and behaviors (Rhodes, 2014). Dodge and colleagues found that early peer rejection predicted growth in aggression over time, particularly among children who were already predisposed to aggressive tendencies. Failure to foster close, meaningful friendships can have negative outcomes for rejected children and youth.

Peer behavior, even outside of friendships, can influence one's behavior. Peer delinquency, for example, is found to exacerbate one's own delinquent behavior above and beyond prior delinquency, which suggests that peers worsen delinquent behavior (Gifford-Smith et al., 2005). Additionally, high levels of peer delinquency have been found to be a risk factor for later violence (Bernat et al., 2012). Peer violence relates to one's own delinquency, particularly among boys, and to the use of force or violence to settle disputes, particularly among street youths (Baron, 2003; Henneberger et al., 2013). Exposure to antisocial peers and friends relate to violent behaviors; as such, it is important to consider the risk and protective factors that relate to having and being influenced by antisocial peers.

Risk Factors

It is somewhat intuitive that peers with trait similarity, or homophily, tend to associate with one another, as is the case with antisocial and aggressive peers (D. L. Espelage et al., 2003). Homophily is related to both selection of similar peers, as well as the influence of group members on one another (Deptula & Cohen, 2004; Kandel, 1978; Prinstein & Dodge, 2008). Interestingly, selection into such peer groups not only relates to one's own antisocial tendencies, but also to the perceived popularity from group association (Salmivalli, 2010). Individuals within aggressive homophilic peer groups engage in deviancy training, by which members reinforce deviant tendencies as a way to solidify group cohesion (T.J. Dishion, Patterson, & Griesler, 1994; T.J. Dishion & Van Ryzin, 2012). Coercive joining, a process by which peers display dominant behaviors in friendships and engage in hostile references towards others and use obscene language, is predictive of antisocial behavior in adolescence, deviancy training, and violence in early adulthood (T.J. Dishion & Van Ryzin, 2012). Other risk factors related to affiliation with antisocial peers, include peer rejection, academic failure, early victimization, and externalizing behavior (T.J. Dishion et al., 1991; Rudolph et al., 2014).

Protective Factors

High quality friendships, indicated by such characteristics as companionship, psychological closeness, low conflict, and high conflict resolution, protect against peer victimization (Deptula & Cohen, 2004). Reciprocated friendships are especially important for victimized youth, as such friendships with non-victimized youth can help to prevent prolonged victimization (Hodges & Perry, 1999; Temkin, 2010). Low levels of peer delinquency serve as a protective factor for delinquency in young adulthood (Bernat et al., 2012). Being able to resist peer pressure, especially in middle adolescence, and self-regulation decrease susceptibility to engage in antisocial behaviors (F. Gardner et al., 2009; Steinberg & Monahan, 2007).

Interventions

Given the importance of peer relationships, programs have targeted improving social relationships, as well as factors that impact social relationships. Especially important are programs that aim to

strengthen the protective factors surrounding association with antisocial peers, including positive peer relationships, resistance skills, and self-regulation.

Resolve It, Solve It is a violence prevention program which guides students on creating violence prevention campaigns for their communities through messages that promote positive, prosocial interactions, conflict resolution, and respect for individual differences. Among females, the program reduced physical assault against others. *Responding in Peaceful and Positive Ways* (RIPP) promotes peer mediation through critical thinking, problem-solving, role-playing, and group work. RIPP was successful in reducing female students' threats to teachers and male students' nonphysical aggression and in-school suspensions. Such programs are promising avenues to promote positive peer relationships and, thereby, reducing violent behaviors.

Because antisocial peers have a tendency to exacerbate deviant behavior, programs that target assertiveness and resistance skills may be useful in decreasing the level of influence deviant peers have on one's own behavior. The Wyman's *Teen Outreach Program* is a school-based program targeting middle and high school students teaching them SEL skills such as autonomy and assertiveness, as well as self-confidence, social skills, and self-discipline. *Aban Aya* Social Development Curriculum aims to reduce risky behaviors, including violence utilizing a variety of cognitive-behavioral skills, including those that target developing interpersonal relationships and resisting peer pressure. *Too Good For Violence* (TGFV) is a school-based program that promotes development of positive social skills and strengthening of protective factors such as resistance skills. *Gang Resistance Education and Training* (GREAT) is a program targeting elementary and middle school students and can be implemented in a variety of contexts, including the school and home, as well as summer programs. GREAT teaches children to manage anger, resolve conflicts, and practice refusal skills. Being able to say no to peer pressure is a key factor reducing the effects of antisocial peers on delinquent and violent behavior. Being able to regulate one's own behavior is likely a key feature in being able to resist peer pressure. Programs such as the *Good Behavior Game* and *Project Achieve*, both school-based programs, promote self-regulation and self-management skills

Summary: Antisocial Peers

- Association with antisocial peers, as well as lack of close peer relationships, is linked to aggression, violence, and suicide
- Close peer relationships, prosocial peers, and ability to resist peer pressure are linked to less violence, antisocial behavior, and victimization
- Existing programs not only target improved peer relationships, but increased social and emotional and peer pressure resistance skills, such as *Too Good For Violence* and *Good Behavior Game*

School Connectedness

School connectedness has been conceptualized in multiple ways, but generally refers to students' perceived sense of belonging or relationships with peers, relationships with teachers, being cared for, and safety within the school environment (M.D. Resnick et al., 1997). School connectedness, as a construct, is based on the premise that a feeling of connection and belonging is a basic human need that extends to the school context. Feeling a sense of belonging from peers and support from adults serves to create a sense of connection with the overall school environment and is linked to a number of positive outcomes.

School connectedness is thought to foster positive outcomes and demote negative outcomes through increased academic engagement, interaction with prosocial peers and adults, participation in school activities, and acceptance of school norms and values (Bollen & Hoyle, 1990; Hawkins et al., 2005). A review of research indicates the school connectedness is associated with greater motivation and classroom engagement and improved school attendance (Blum, 2005). In examining an ecology of factors that relate to various student outcomes, Resnick and colleagues (M.D. Resnick et al., 1997) found school connectedness to be the only factor that related to all eight adolescent health-risk outcomes that they examined. A review of literature highlights the link between school connectedness and higher school attendance, academic achievement, and high school graduation, as well as, lower emotional distress, substance use, unintended pregnancy, and school-related misconduct, such as truancy (Blum, 2005; Niehaus et al., 2012).

With regard to violent outcomes, school connectedness is associated with less violent, deviant, and antisocial behavior, overt victimization of girls, suicidal thoughts and behaviors, fighting, bullying, and vandalism (Blum, 2005; Loukas, 2013). Brookmeyer and colleagues (2006) found that school connectedness was linked to decreased violence over time. Low school connectedness, however, has been found to relate to serious violent offenses, particularly among 14-year old adolescents (Bernat et al., 2012). The associations of school connectedness with student outcomes are applicable across racial, ethnic, and income groups (Wingspread, 2003).

A central component of school connectedness appears to be the student-teacher relationship (McNeely, 2005; Ozer, Wolf, & Kong, 2008). For example, McNeely (2005) used Add Health data to assess subcomponents of school connectedness, including belongingness/peer relationships and student-teacher-relationships, and their relation to various academic and health risk outcomes, including GPA, suspension, weapon-related violence, and smoking, among middle and high school students. Although the construct of belongingness had stronger psychometric properties than student-teacher relationships, the latter had stronger relations with student outcomes. When the student-teacher relationships was considered, belongingness did not relate to outcomes, whereas student-teacher relationships were predictive of higher GPA, fewer out-of-school suspensions, less weapon-related violence, and less smoking. McNeely's findings suggest the importance of student-teacher relationship as a protective factor for a variety of student outcomes.

Support, respect, fairness, and practicing "benefit of the doubt" have been identified as important aspects of the student-teacher relationship from the student perspective (Klem & Connell, 2004; Ozer et al., 2008). Klem and colleagues found that associations between teacher support, student engagement, and achievement applied to elementary and middle school students, with teacher support being especially important for younger students' achievement. In general, girls are more likely to report positive teacher-student relationships, whereas boys tend to have lower perceptions of positive relationships with teachers and are, thereby, at a higher risk for negative outcomes (Niehaus et al., 2012).

Overall, school connectedness tends to decline over the course of the school year, as Niehaus et al. (2012) found among 6th grade students. However, when school connectedness is high, it contributes to an overall positive school climate, which has implications for various student outcomes (NCSSLE, 2014). As such, it is important to consider the risk and protective factors associated with school connectedness.

Risk factors

There are a number of risk factors for low perceptions of school connectedness among students. Individual level factors include family poverty, mobility rates, and limited English proficiency (Lapan et al., 2014). Risk factors that are more amenable to change include family connectedness, social isolation, lack of safety, and poor classroom management (Blum, 2005).

Protective factors

In addition to subcomponents of school connectedness, including peer relationships, teacher relationships, safety, and caring, contributing to overall feelings of connectedness, there are various other individual, family, and classroom level factors that aid in connectedness. These include fewer emotional problems, higher prosocial skills, family connectedness, and fewer classroom and peer problems (Waters et al., 2010).

Interventions

There are a limited number of programs that target school connectedness as a construct. One example is *Raising Healthy Children*, a school-wide social development program aimed at promoting positive youth development. The goal of the program is to create strong connections between the learner and school environment by “creating a caring community of learners” among the school, family, and individual (“Raising Healthy Children”, 2012). The approach has been found to positively impact the social environment of the classroom and family, create a network support and sense of teamwork, and have long-term effects.

Although there are limited programs aimed at school connectedness, researchers have certainly identified practices that could aid in developing a sense of connectedness. Recognizing the importance of children’s connectedness to school, a Wingspread conference was convened to involve key stakeholders, including researchers and representatives from government, education, and health, in discussion of knowledge gleaned from research. Resulting from Wingspread was a declaration identifying important research on school connectedness, including key features and benefits, as well as factors and strategies to promote school connectedness (Blum, 2005).

Though teachers are a key component of connectedness, teachers need to be supported by administrators to contribute to an overall positive school climate. Blum (2005) notes that teachers and administrators are key in implementing key strategies to promote connectedness, including: setting expectations, providing autonomy, allowing for decision-making, practicing cooperative learning to minimize social isolation, and making meaningful connections to students’ lives so that students develop a stake in their education. Other promising practices within the school environment include school-based mentoring programs (Gordon, 2013) and responsive counseling.

The development of school-wide programs to promote connectedness and support teachers would be useful. There are a number of technical assistance tools to help schools identify needs for improving the overall community for learning, such as the online school improvement tool offered through the Association for Supervision and Curriculum Development (ASCD) that can be used by schools and districts. Additionally, the Centers for Disease Control (2011) offers a staff development programs to guide educators in learning about school connectedness, generating enthusiasm around efforts to increase connectedness, and implementing a school action plan to improve connectedness.

Summary: School Connectedness

- School connectedness relates to higher classroom engagement, attendance, and achievement, and less antisocial behavior, suicidal thoughts and behaviors, and fighting
- Student-teacher relationships are central to students' feeling of school connectedness
- School-wide practices such as support of teachers and creating a caring and safe environment may serve to foster school connectedness

School Performance

School performance can be conceptualized in a variety of ways including achievement measures such as GPA, grades, and standardized test scores, and attainment measures such as on-grade for age, dropout, attendance, and graduation. Additionally, certain measures of school performance may be relevant for differing age groups. For example, ACT or SAT test scores are only relevant for high school-age youth. Likewise, attendance in elementary school might not be a reliable measure of students' school performance as it may reflect parental factors more saliently than factors related to the student. Nonetheless, school performance is an important construct in research and has been linked to a multitude of factors.

Outcomes

Academic Outcomes. Previous school performance predicts later school performance, which is why academic interventions often target earlier grades. A literature review looking at predictors of postsecondary success identified indicators in earlier grades that predict later academic success (Hein, Smerdon, & Sambolt, 2013). For example, literacy proficiency in third grade predicts reading proficiency on state assessments in the middle grades. Similarly, other measures of school performance, such as attendance in middle school, predict later school performance, specifically on-time high school graduation. Additionally, high school GPA and standardized test scores predict postsecondary enrollment and attainment (Princiotta et al., 2014), which influences many areas of personal and social well-being.

Non-Academic Outcomes. School performance indicators are also linked to non-academic outcomes. For example, educational attainment has been linked to health, economic, teen sexual behavior, and parenting outcomes. Educational attainment level is positively related to healthy behaviors, such as not smoking and delayed sexual activity among teens (Busch et al., 2014).

Violent Outcomes. Numerous studies have found that school performance is linked to violence. Educational attainment is related to crime; high school completers have lower rates of crime, arrests, and incarceration compared to high school drop outs (Lochner & Moretti, 2004). A review of 14 longitudinal studies and 19 cross-sectional studies concluded that students with higher academic performance (e.g., GPA, academic grades, standardized test scores, grade retention, or years of education completed) were significantly less likely to engage in, or be victims of, violent behaviors (Bradley & Greene, 2013). There is also evidence that programs that effectively reduce violence and drug abuse have also been shown to increase school success. Concurrently, there is a link between school performance and social emotional learning (SEL), meaning SEL programs that foster academic success will also foster non-violent tendencies. One study of 165 school-based violence prevention programs found programs that focus on social and emotional learning reduce delinquency and substance abuse, and were even more effective at reducing dropout rates and truancy (D. B. Wilson, Gottfredson, & Najaka, 2001). Although there is evidence to suggest a strong relationship between school performance and violence, understanding how the relationship works,

for example through confounding variables such as attention (Maguin, Loeber, & LeMahieu, 1993; Metcalfe, Harvey, & Laws, 2013), is still being explored by researchers.

Risk and Protective Factors

A number of factors impact students' levels of school performance and educational trajectory. Some of those factors include levels of motivation, engagement, and self-efficacy, as well as school transitions.

Additionally, school performance is related to SEL. Students who are socially emotionally skilled not only score higher on standardized tests, but experience greater academic competence over time. Research examining the relationship between social and academic competence indicates that academic achievement directly influences social competence, and social competence is reciprocally related to academic achievement – as examined on a group of first through third graders (Malecki & Elliot, 2002; Welsh et al., 2001). Students who can manage their emotions and behavior and form positive relationships with peers and adults do better in school and avoid health-compromising behaviors (B. H. Smith, 2012).

Various SEL skills have been connected to academic achievement. Numerous studies link self-regulation to academic achievement. Students who are more self-aware and confident about their learning capabilities persist and persevere in overcoming obstacles (Durlak et al., 2011). Students who have higher levels of self-regulation skills tend to set high academic goals, remain self-motivated, organize their approach to work, and earn higher grades (Durlak et al., 2011). Additionally, in a longitudinal study of 140 eighth-grade students, self-discipline predicted final grades, school attendance, standardized achievement-test scores, and selection into a competitive high school program. Furthermore, self-discipline accounted for more than twice as much variance as IQ in final academic success (Duckworth & Seligman, 2005).

Programs

Proven programs. Given the variety of research indicating a relationship between school performance and violent outcomes, there are various programs targeting academic success that have an impact on violent outcomes. Additionally, due to the relationship between SEL and school performance, there are a number of SEL programs that address academic success and effect violent outcomes.

Classrooms in which SEL programs are implemented foster students' academic growth and success. Many SEL programs have been evaluated and found effective in improving academic outcomes, as well as preventing violence. In a meta-analysis of 213 programs, covering three decades of research, it was found that students receiving school-based SEL scored 11 percentile points higher on academic achievement tests than their peers who did not receive SEL (Durlak et al., 2011; Payton et al., 2008). SEL programs reduce misbehavior and the amount of time spent on classroom management, thus creating more time for teaching and learning (Vega, 2014). Safe and orderly environments that encourage and reinforce positive classroom behavior are identified as one of the necessary conditions for academic achievement (Vega, 2014). According to Durlak's 2011 study, the most common problem when implementing SEL programs is a lack of teacher and administrator support. Most teachers are concerned with students' academic success; if teachers do not see the benefits of SEL programs for academic success they will poorly execute these programs (Durlak et al., 2011). However, a recent review of the literature on integrated students supports find that non-academic as well as academic factors are related to academic success (Moore et al., 2014).

A variety of programs have an effect on both violent outcomes and academic outcomes. *Becoming a Man Sports Edition* is a targeted in-school or after-school intervention for low-income, minority male youth with a focus on developing skills related to emotional regulation, control of stress response, improved social-information processing, interpersonal problem solving, goal setting and attainment, and personal integrity. This program was evaluated in Chicago schools (University of Chicago Crime Lab, 2012).

Another proven success story is *Positive Action*, an education program designed to be implemented by individuals to groups of 30 or less to promote intrinsic interest in learning and becoming a better person. Lessons are specific to grade level (K-12), although the underlying themes are consistent across grades. In a U.S. Department of Education What Works Clearinghouse evaluation, Positive Action was found to have positive effects on elementary school students' behavior and academic achievement (WWC, 2007).

The 4Rs Program (Reading, Writing, Respect & Resolution) at the New York City Morningside Center integrates conflict resolution into the language arts curriculum for grades K-5. The program uses high-quality children's literature as a platform for helping students gain SEL skills in the areas of community-building, handling anger, listening, assertiveness, cooperation, negotiation, mediation, celebrating differences, and countering bias. The 4Rs also includes a parent component, which includes activities children do at home with their parents. In a two-year study across 18 elementary schools randomly assigned the 4Rs program, participating students displayed decreased hostility and aggression as well as increased reading and math test scores (Jones, Brown, & Aber, 2011).

Promising programs. The *Resolving Conflict Creatively Program* (RCCP) is a program found to have both academic and violence prevention outcomes. It is a school-based, violence-prevention program designed for use with children in kindergarten through eighth grade. RCCP involves classroom instruction by trained teachers as well as training of children to act as peer mediators. The program seeks to create a more caring and peaceful school environment by promoting positive conflict resolution and understanding of different cultures. RCCP serves over 400 schools in 16 urban, suburban, and rural districts across the country (PPN, 2014). Intervention evaluations found that a higher level of exposure to RCCP lessons predicted significant growth in math achievement, as well as decreases in teacher perceptions of negative behavior, lower level of aggressive conduct problems, and higher levels of interpersonal strategies. However, considering various intervention studies, the program is not yet proven as a success, and remains promising (PPN, 2014). Despite the positive findings, there are some methodological limitations to the evaluations, and some conflicting outcomes. It should be noted that positive program effects may not be consistent across all populations. Findings indicate that the program is less effective on older children (Aber, Brown, & Henrich, 1999). Additionally, other results suggest that RCCP lessons' direct effects on math achievement extend only to Hispanic and black children and not to white children (J. L. Brown, 2003; PPN, 2014).

Another promising program is the *Seattle Social Development Project* (SSDP). SSDP was a multi-year, school-based intervention that used a skill-development and risk-reduction strategy to improve student outcomes. SSDP targeted students in grades one through six. It combined teacher, child, and parent components with the goal of enhancing children's bonding with their families and schools. Several evaluations that involve an ongoing longitudinal follow-up study have been conducted. Research revealed that, compared with comparison group participants, full-intervention participants experience various positive outcomes such as lower rates of alcohol, tobacco or drug use, less delinquency and higher academic standardized test scores. However, it should be noted that findings sometimes differed by gender or race (Hawkins et al., 1992; Hawkins et al., 2001; Hawkins

et al., 2005; Hawkins, von Cleve, & Catalano, 1991). Additionally, the effect of attrition – participants who left the study– should be taken into account. Some studies experienced a significant level of attrition or lower response rates for the final longitudinal study evaluation period. It is also important to recognize that SSDP has only been studied in one metropolitan area, therefore limiting the applicability of the findings to other populations (SSDP, 2014).

Summary: School Performance

- High levels of academic performance are associated with less violence, delinquency, and crime
- Motivation, engagement, and social and emotional competencies are linked to high achievement
- Existing programs that target social and emotional skills have been linked to increased student achievement and decreased violence
- *Positive Action* has positive effects on both student achievement and behavior

School Climate

School climate, also referred to as the “conditions for learning,” (Temkin, in press) generally refers to the aggregate perceptions of students, staff, and the broader school community regarding school norms, values, relationships, safety, and structures (Anderson, 1982; Thapa et al., 2013). There are many competing conceptualizations of the key components of school climate, but recent work has supported a framework developed by the U.S. Department of Education that divides school climate into three primary components: (1) engagement; (2) safety, and; (3) environment (Catherine P. Bradshaw et al., 2014; Osher & Kendziora, 2010). *Engagement* refers to indicators that bind the school community together, such as relationships among and between students, parents, and staff, respect for diversity, and participation in school activities (see also: School Connectedness). *Safety* refers to both the perception and incidence of violence, substance use, and other behaviors that affect physical and emotional well-being. *Environment* refers to a school’s contextual and structural supports, such as the physical environment (i.e. the cleanliness, attractiveness, and comfort of the school building), the disciplinary environment (i.e. discipline is fair and consistent), the academic environment (i.e. students are challenged and held to high standards), and the wellness environment (i.e. students have resources and support for their mental and physical health) (Temkin, in press).

School climate has been linked to a number of outcomes, including self esteem (Hoge, Smit, & Hanson, 1990), self-concept (Cairns, 1987), substance use (LaRusso, Romer, & Selman, 2008), truancy (Worrell & Hale, 2001), suspensions and expulsions (Lee et al., 2011), academic achievement (McEvoy & Welker, 2000), and emotional and mental health (Way, Reddy, & Rhodes, 2007). In relation to violence, positive school climate has been linked to reduced reports and perceptions of aggression and violence (Astor et al., 2002; A. Gregory et al., 2010), harassment and bullying (Kasen et al., 2004), and other forms of school crime (Gottfredson et al., 2005). These relations are a function, in part, of school norms and acceptance for such outcomes. For instance, Henry and colleagues (Henry et al., 2000) find that the frequency of aggression is significantly lower in classrooms in which both teachers and students had strong norms against aggressive behavior and where teachers demonstrated observable reprimand of aggression. Similarly, Roland and Galloway (Roland & Galloway, 2002) find that teachers’ classroom management skills are significantly related to both the social structure and the frequency of both being bullied and bullying others in a classroom even after controlling for familial factors.

Risk and Protective Factors

It is important to note that while school climate serves as both a risk and protective factor for these outcomes, so to do these outcomes affect school climate; they are cyclically linked and causal direction is often unclear (Ozer, 2006). For instance, working to reduce violence in schools will influence perceptions of safety, thereby improving school climate, which may then further reduce incidence of violence. In many ways, the term school climate is amorphous and is a catchall for both the positive supports and interventions designed to promote positive student development as well as the negative experiences and behaviors that place students at risk (Thapa et al., 2013). Thus, improving school climate relies on strengthening individual components and will inherently require different strategies depending on schools' individual needs (Thapa et al., 2013).

Programs

As a collective of multiple factors, programs and practices to address school climate most often focus on identifying process rather than specific curricula (Thappa et al., 2013). Specifically, programs tend to focus on building schools' *organizational capacities* (Miller & Shin, 2005; IOM, 2009) to identify areas of need, to select and implement appropriate practices, to build needed community support for effective implementation, and to continually evaluate progress (Goodman et al., 1998; Howe et al., 1997; Johnson et al., 2004; Miller & Shin, 2005). The need to build organizational capacity to engage in evidence-based prevention is well established in the literature (Miller & Shin, 2005; IOM, 2009). Guided decision making, needs assessment, and coalition building, helps communities identify the best use of limited resources to best address their needs (Miller & Shin, 2005). According to Fixen and colleagues (2005), successful prevention implementation requires coordination and buy-in from all levels of a system and a commitment to challenge the status quo. Although communities recognize the need for prevention programs (IOM, 1994; IOM, 2009), without first developing not only the financial resources but the leadership, buy-in, and other contextual supports, even the most efficacious programs will have little impact and are unlikely to be sustained (Adelman & Taylor, 2002; Miller & Shin, 2005).

Although programs designed to address organizational capacity for school climate improvement are still developing, the idea of organization capacity and its application to prevention interventions has been demonstrated at the whole-community level. Pertaining specifically to the prevention of risky behaviors in youth, the *Communities that Care* (CTC) model (Hawkins & Catalano, 1992) is perhaps the most evaluated framework for building community capacity. CTC prescribes a sequence of stages designed to build community leadership, collect and analyze data, identify existing risk and protective factors, and select and implement evidence-based prevention programs at the familial, community, and school level. At its initial stage, CTC requires the commitment of major community stakeholders including, but not limited to school leaders, law enforcement, and other community services. CTC communities show significant improvements in targeted risk factors and reductions in adolescent delinquent behaviors compared to non-CTC communities (Hawkins et al., 2009). The internal functioning of the coalition as well as the community's initial readiness for capacity building is key to the success of CTC (Feinberg et al., 2004).

The Good Behavior Game

The *Good Behavior Game* (GBG) intervention is intended to help reduce aggressive behavior in students in the early elementary grades. The program is one component of a two-part intervention administered in first and second grades. The GBG uses behavior modification strategies to reduce levels of aggression and poor conduct in the classroom. GBG was originally designed to be classroom-based, and is a teacher-led behavior management strategy, which rewards teams of children for good behavior. A team wins a game if at the end of the designated period its members have not exceeded a pre-established level of maladaptive behavior. In the early stages of the game, the designated “game time” is announced to students, and the length is fixed; rewards are given out immediately following the game. At later stages, the teacher does not announce the game time, and rewards are distributed at the end of the day. A cost-benefit analysis found that every dollar invested returns \$84.63 in benefits.

There have been five random assignment evaluations of the classroom-based model.

- In one evaluation, researchers found that the GBG had impacts that were significant, and increased over time, but only for male students whose first-grade levels of aggression were high (above the median).
- However, a second evaluation found a decrease in both aggressive and shy behavior, as rated by teachers, for both boys and girls.
- Yet a third evaluation found a positive impact of GBG on ADHD, conduct disorder, and oppositional-defiant disorder symptoms at the end of treatment, for children with intermediate levels of symptoms. Children in the intervention group experienced stable levels of symptoms over the course of two years, whereas control-group children experienced an increase in symptoms over the course of the study. At follow-up, the intervention group had a decrease in levels of aggression during transition times, through sixth grade, whereas in the control group aggression levels reached a plateau at third grade. Follow-up data also indicate that boys who were in the GBG group at grades one and two were less likely to engage in smoking when they were early adolescents.
- The game was also adapted for use in Dutch populations, and a fourth evaluation of the Dutch version found it to have a significant impact on ADHD symptoms.
- A fifth evaluation also indicates that the GBG decreases suicide ideation and attempts through childhood, adolescence, and early adulthood.

The classroom-based model of the Good Behavior Game has been also implemented province wide in Manitoba, Canada, with first graders and evaluated with a random control trial. “The preliminary evaluation results have been released and are promising. Compared to children in schools not yet doing PAX, Grade 1 children who participated in PAX have significantly fewer conduct problems (e.g., bullying other children), have significantly fewer emotional problems (e.g., feeling anxious or depressed), and show significantly more pro-social behavior (e.g. sharing with and helping others).”

The Good Behavior Game has also been adapted to be implemented in an out-of-school setting. This model is currently being evaluated, and preliminary findings are very promising.

Similar to the Communities that Care Model, *PROSPER (PROmoting School-community-university Partnerships to Enhance Resilience)* works to build school capacity for evidence-based prevention by building community teams and undergoing a “multi-phase developmental process” (Spoth, Greenberg, Bierman, & Redmond, 2004). In the PROSPER model, community teams are led by local Cooperative Extension representatives alongside school leaders who work closely with prevention science research to build capacity. Through the process, each team identifies a family-based program and a school-based prevention program to implement and evaluate. In matched pair randomized control studies, PROSPER communities had significantly lower rates of negative behavior including delayed initiation of drug use (Spoth et al., 2011). Additionally, PROSPER communities were significantly more likely to sustain programming over time (Redmond et al., 2009).

Specific to school climate, several initiatives are currently building upon these previous models to inform and improve school climate. The *School Climate Improvement Process*, an initiative of the National School Climate Center, focuses on five stages of planning, implementing, and evaluating a school climate action plan (Cohen, 2013). Although the model has yet to be evaluated, it is based upon a wide range of literature supporting each of its steps (National School Climate Center, *n.d.*).

Similarly, the *Safe School Certification Program*, a model developed in Iowa and implemented as part of the federally-funded Safe and Supportive Schools Grant Program, identifies eight broad components of safe schools (e.g. Policy, Data, Buy-in, Leadership, Family Engagement, Student Engagement, Training, and Programs) and incentivizes schools participation by offering a certification from a group of experts. The framework is non-prescriptive, emphasizing the multiple ways schools may accomplish each of the components (Safe School Certification Program, *n.d.*).

Increasingly, school climate reform has also been tied to implementation of *Positive Behavior Intervention Supports* (PBIS; Sugai & Horner, 2011), although many are critical of the simplification of school climate reform to this model (Cohen, 2014). Originally designed as a supportive framework to reduce the use of restrictive and overly punitive punishment for students with disabilities, PBIS works to identify individual students’ skills and deficits and provide programming at the universal, indicated, and targeted levels based on those needs. PBIS also encourages reinforcement of positive behavior through the use of rewards. PBIS has been linked to increased teacher efficacy, improved school climate, and teacher-reported reductions in bullying behavior (Bradshaw et al., 2009; Sugai & Horner, 2011; Waasdorp, Bradshaw, & Leaf, 2011).

Summary: School Climate

- School climate is comprised of engagement, safety, and environment, and serves to convey norms and socially acceptable behaviors within the school setting.
- Positive school climate, in and of itself, is a protective factor for various outcomes, including violent outcomes, but this relation is bidirectional such that various outcomes and behavior also shape school climate.
- It is important that schools use available resources to assess and identify their needs and create a strategy to improve school climate that is tailored to their unique needs.

V. Community and Societal-Level Factors Related to Violence

Collective Efficacy

It has long been recognized that neighborhood characteristics can be risk or protective factors both for being victimized by or for perpetrating violence. Marc (Marc & Willman, 2010) found that violence generally concentrates in areas of strong economic disadvantage, social exclusion, and poverty, while Lösel's (Lösel & Farrington, 2012) review found that living in a non-deprived and nonviolent neighborhood was a strong correlate of having protective effects against youth violence. Farrington's (Farrington, 1998) review of longitudinal studies found that living in a high-crime neighborhood is a major long-term predictor of youth violence and Griffin (Griffin et al., 1999) found that a greater perceived neighborhood risk was associated with more interpersonal aggression. In a review, Ingoldsby (Ingoldsby & Shaw, 2002) found that neighborhood contextual factors are correlates of early-starting anti-social behavior. Hall (Hall, 2012), summarizing the findings of four CDC studies, concluded that neighborhood characteristics influence the likelihood of youth violence perpetration. In one of these CDC studies, for example, Pardini (Pardini et al., 2012) found that high 'neighborhood disorder/crime' was a strong predictor of violence at ages 15–18 years. Herrenkohl (Herrenkohl et al., 2000) found that neighborhood disorganization was a risk factor for violence and, in a 2012 follow-up, that the risk for violence was increased by living in a neighborhood where young people were in trouble. Herrenkohl concluded that neighborhood risk factors are among the most salient and consistent predictors of violence.

One neighborhood characteristic that may act as a protective factor against violence by residents and visitors, including police, even in disadvantaged neighborhoods, is collective efficacy. Collective efficacy has been defined as "social cohesion among neighbors, combined with their willingness to intervene on behalf of the common good" (R.J. Sampson, Raudenbush, & Earls, 1997) and, more generally, as "social control enacted under conditions of social trust" (R.J. Sampson, 2004). Note that these definitions do not include or imply collective action; although social cohesion and trust are collective, the actions that result are likely to be individual. Tolan (Tolan, Gorman-Smith, & Henry, 2003) found that in the poorest and most crime-ridden communities, there is less felt support among neighbors, a lower sense of neighborhood belonging, and lower involvement in the community.

The study of collective efficacy grew out of the social disorganization theory developed by Shaw and McKay (C. R. Shaw & McKay, 1942), which argued that when institutions and organizations that support cooperation are, or become, weak, traditional norms and values do not dominate, and deviant behaviors become more likely. It may be possible to reduce the negative effects of this weakness by fostering features of collective efficacy, such as pro-social shared value systems and informal social control. Collective efficacy has been identified not only as a means for preventing or reducing violence, but also as a protective factor for children who have been exposed to violence, by helping to develop greater resilience (Jain et al., 2012).

The causal relationship between collective efficacy and violence is bidirectional and circular, with high collective efficacy acting to prevent or lower rates of violence, and high rates of violence acting to decrease collective efficacy, so that both virtuous and vicious circles may be possible.

Review of evidence

Experimental Studies. The Moving to Opportunity (MTO) program tested whether offering housing vouchers to families living in public housing projects in high-poverty neighborhoods of large inner cities could improve their lives and the lives of their children by allowing them to move to lower-poverty neighborhoods (Sanbonmatsu et al., 2011). A long-term evaluation of MTO found that it helped families move into neighborhoods where neighbors were more willing to work together to support shared norms (a measure of informal social control), but that there were few statistically significant impacts of MTO on risky and criminal behavior. The one outcome for which there were some hints of beneficial impacts was a reduction in illegal drug selling by male youths. MTO moves also made participants feel safer in their new neighborhoods and increased the social connections of the adults to other people who were employed full-time or had completed college.

Cross-sectional and Longitudinal Studies. An analysis of a 1995 survey of 8,782 residents in 343 neighborhoods in Chicago, Illinois, found that collective efficacy was negatively associated with variations in violence (R.J. Sampson et al., 1997), and acts as a protective factor even in areas where concentrated disadvantage and residential instability are related with violence. After adjusting for measurement error, differences in neighborhood composition, and prior violence, collective efficacy (measured as informal social control and cohesion and trust) remains a strong predictor of lower rates of violence.

Using data from the same Chicago study, Morenoff (Morenoff, Sampson, & Raudenbush, 2001) found that spatial proximity to violence, collective efficacy, and measures of neighborhood inequality—concentrated disadvantage and concentrated extremes—are the most consistent predictors of variations in *homicide*. Social ties and institutional processes appear to reduce homicide rates indirectly by fostering collective efficacy.

Using the Chicago data to examine the effect of collective efficacy on suicide, Maimon (2010) (Maimon, Browning, & Brooks-Gunn, 2010) found that while not directly related to suicide, collective efficacy significantly enhances the protective effect of family attachment and support on adolescent suicidal behaviors. In another study using these data, Maimon (Maimon & Browning, 2010) found that unstructured socializing by youths is a predictor of violence, but that collective efficacy exerts an independent influence that lessens the effect of unstructured socializing on violence.

In a study of 2,232 children who participated in the Environmental Risk Longitudinal Twin Study who were assessed at ages 5, 7 and 10, Odgers (Odgers et al., 2009) found that neighborhood collective efficacy reduced levels of antisocial behavior at school entry, but only in deprived neighborhoods. The relationship held after controlling for neighborhood problems and family-level factors.

Mechanisms

The basis for neighborhood efficacy appears to be trust, along with shared values and expectations, and not necessarily networks or collective action. Sampson (R.J. Sampson et al., 1997), based on results from the Chicago study, concluded that dense personal ties, organizations, and local services are not sufficient to reduce violence; reductions in violence are more directly attributable to informal social control and cohesion among residents. Also using Chicago data, Browning (Browning, Feinberg, & Dietz, 2004) concluded that networks (the ties and exchanges between neighborhood residents) and collective efficacy (mutual trust and solidarity combined with expectations for pro-social action) are in competition in the regulation of neighborhood crime. The protective effect of

collective efficacy on violence is substantially reduced in neighborhoods with high levels of network interaction and reciprocated exchange.

Marc (Marc & Willman, 2010) suggests the following features as particularly important in affecting a community's capacity to maintain public order and prevent violence: the capacity to generate trust among residents, the capacity to heal from trauma, the ability to link community efforts with broader initiatives, the capacity to exert social control, and mechanisms of inclusion to guard against dominant power groups, e.g., gangs. Despite weak ties among individual community members, the existence of shared values and expectations can enable enough trust for the community to achieve common goals, including lowering violence rates.

Burchfield (Burchfield & Silver, 2013), using data from the Los Angeles Family and Neighborhood Study (LAFANS), which focused on crime rather than violence, found that collective efficacy mediated 77 percent of the association between concentrated disadvantage and robbery victimization. This was much lower in Latino neighborhoods (52 percent), indicating a 'Latino paradox' in which crime rates in Latino neighborhoods appear to have less to do with local levels of collective efficacy than in non-Latino neighborhoods.

Interventions

In a review, Beck (Beck, Ohmer, & Warner, 2012) found three levels of interventions: raising awareness in communities about the importance of collective efficacy; bringing together traditional community development strategies and efforts designed to support the development of collective efficacy; and interventions with the explicit goal of building or strengthening collective efficacy.

Banyard (V. L. Banyard, Plante, & Moynihan, 2004) reported on an approach for reducing campus (a particular kind of community) sexual assault by developing a college campus into "a community of care" with a focus on bystander intervention. Students were taught about the prevalence, context, and consequences of sexual violence and how to identify activity that could result in sexual violence. Students in the experimental group experienced significant increases in prosocial bystander attitudes, behavior, and efficacy. An evaluation found that the *Bringing in the Bystander* intervention is successful in improving bystander awareness and pro-social behaviors to prevent or intervene in instances of sexual violence (V. A. Banyard, Moynihan, & Plante, 2007). Crime Solutions rates this intervention as Promising.

Ohmer (Ohmer, Beck, & Warner, 2010) reported on a program implemented within a traditional neighborhood to support residents in identifying and establishing community norms that bolstered pro-social behavior and mutual trust, and to teach residents how to intervene directly in inappropriate neighborhood behaviors. The program had three elements: (1) teaching residents consensus organizing strategies for building relationships with other residents and external stakeholders, thus facilitating social capital and ties in the community; (2) helping residents identify and establish community norms that support pro-social behavior and mutual trust; and (3) teaching residents new skills to enhance their self-efficacy and ability to directly intervene in inappropriate neighborhood behaviors in a respectful and supportive manner, using the principles of restorative justice. The study found significant pre- and post-test results in the areas of participants' attitudes towards intervening and the likelihood of their intervening across five hypothetical situations, but did not include measures of actual behaviors.

The Baltimore Community Conferencing Center has since 1998 convened over 900 conferences to support low-income neighborhoods in community-building and developing and implementing community-based responses to conflict and crime. Abramson (Abramson & Beck, 2011) reported

on the Streeper Street conference, which addressed a seemingly intractable conflict that had begun with youths playing football on the street and had escalated to property damage, calls to the police, and acts of violence. Through facilitated discussion, the conference participants realized they were not there to argue, but rather to find solutions, i.e., to take collective responsibility. After eight years, over 2,000 youth had benefited from the structured football league that was established as a result of the conference.

Boston Ministers Take Action to Prevent Neighborhood Violence

In Boston, homicides involving youth fell from an all-time high of 73 in 1990 to 15 in 1997. Reasons for this decrease included a new Mayor intent on improving race relations and safety in the city, a decrease in the demand for crack cocaine, a shift by the Police Department to community policing, and greater cooperation among the police, courts, and probation department as part of Operation Ceasefire (also known as The Boston Gun Project or Pulling Levers), an inter-agency initiative to reduce gun violence through a problem-oriented policing approach and a focus on 'hot spots.'

Another factor was that a small group of ministers in the most violent neighborhoods decided to take independent action to lessen violence by focusing on the youths in the neighborhoods. The key to how the ministers got the attention of—and ultimately, won the trust of—the city's toughest youths was putting in their time on the streets. The ministers met every Friday night at 10 o'clock and walked the same route in Dorchester, one of the most violent neighborhoods in Boston. They would talk with the youths they encountered, saying "We're here to listen to you. We have no idea how to make a difference, but we'll figure it out together."

Several initiatives grew out of these conversations. Because the youths said that they needed something to do and a safe place to hang out, the ministers helped open a high school gym at night; 1,100 kids showed up the first night. The ministers visited the homes of youths already in, or in danger of joining, gangs to educate parents about gangs. They wandered the corridors of high schools between class periods and at lunch time to mingle with youths. As part of the community policing initiative, police officers conferred with the ministers before arresting youths, and the ministers told police about those youths they believed needed to be taken off the streets. The ministers attended court sentence proceedings and vouched for those they could help or recommended prison time for others, as much for their own safety as for that of others.

Despite their success, some of the ministers became exhausted financially, physically and emotionally. "It's very labor intensive, with lots of starts and stops," said the Reverend Jeffrey Brown. "It's hard watching these kids die, time and again."

Source: (McGinn & Gendron, 2002)

Interventions to increase neighborhood efficacy and reduce violence have also been implemented as parts of broader efforts, but there is little evidence from rigorous evaluations to demonstrate their effectiveness in reducing violence. No intervention has been rated Effective by any registry, although some interventions have been rated as Promising. In addition to the interventions mentioned below, attempts to increase community efficacy have been made by instituting

community policing, community security councils, conflict mediation, public security forums, and cross-sector one stop access to police, courts, and services (Marc & Willman, 2010).

The *Aban Aya* Youth Project seeks to reduce and prevent five problem behaviors for African American youth, including violence. Aban Aya includes parent, school staff, and youth support programs, and builds connections between parents, schools, local businesses, and agencies. An evaluation found that at follow-up violence had increased for all groups, but the boys receiving the program showed less of an increase in violence (35 – 47 percent less) compared to boys who had not received the program (Flay et al., 2004). The OJJDP Model Programs Guide rates Aban Aya as a Promising intervention.

Cure Violence (formerly known as CeaseFire) in Chicago uses highly trained street violence interrupters and outreach workers, mentoring, public education campaigns, and community mobilization. Cure Violence concentrates on changing the behavior and risky activities of a small number of persons who have a high chance of either "being shot" or "being a shooter" in the immediate future. Cure Violence was found to have contributed to the decline in gun homicides in only one of the seven study sites, although in all sites there was a significant decline in the median density of shootings (shootings per square mile) in the two years following the introduction of the program (Skogan et al., 2008). There were significant shifts in gang homicide patterns in most of these areas due to the program, including declines in gang involvement in homicide and retaliatory killings. The OJJDP Model Programs Guide rates Cure Violence as a Promising intervention.

Summary: Neighborhood/Collective Efficacy

- Neighborhood risk factors, including neighborhood disorganization, have been found to be important predictors of violence.
- The 1995 Chicago neighborhoods study provides evidence that neighborhood composition, prior violence, informal social control, cohesion and trust remained robust predictors of rates of violence
- The experimental evaluation of Moving To Opportunity found a reduction in illegal drug selling by male youths.
- Interventions that are well-known include Aban Aya, Cure Violence/Cease Fire (Inset box: Ministers walk around as part of CeaseFire Boston). Less well known interventions include campus Communities of Care, Community Conferencing, and Bringing in the Bystanders.

Gun Availability

In the United States there are over 200 million guns (Garbarino et al., 2002), and between 60-67 percent of all homicides and suicides involve guns (Garbarino et al., 2002; Krug et al., 2002; Zuckerman, 1996). One in three U.S. homes with children has a gun, and 42 percent of those guns are unlocked and 25 percent are loaded (BradyCampaign, 2014). Every year, 18,000 children are injured or killed by firearms, and every day, on average, eight children are killed and 42 are injured.

The presence of a handgun is significantly associated with homicides, regardless of other factors such as race, age, or sex (Garbarino et al., 2002). When guns are used in violent crimes, the victims are more likely to die, not necessarily because death is intended, but because guns are more lethal than other weapons. Between 25 and 36 percent of traced guns used by youth to commit crimes are less than three years old and they may be sold illegally by licensed firearms dealers or bought illegally

by adult ‘straw’ purchasers for youths. The Bureau of Alcohol, Tobacco, Firearms and Explosives (ATF) found that 57 percent of traced weapons used in crimes came from a small subset (1.2 percent) of all retailers. Many guns are obtained legally, either through licensed dealers or by private purchases. Although sales by licensed dealers are regulated, 40 percent of all gun sales are private, and thus unregulated.

Guns are easily available to young people, even though federal law limits gun purchases for persons under 21. About 34 percent of children in the U.S. live in homes with firearms, and a national study of male high school sophomores and juniors conducted in 1998 found that 50 percent reported that obtaining a gun would be “little” or “no” trouble (Garbarino et al., 2002). In many places across the U.S., particularly in rural areas, guns are part of the culture and hunting and marksmanship are normal childhood activities. Gun carrying by youth rose in the late 1980s, but started to decline in the mid-1990s, together with the drop in youth gun violence. A 1999 national survey estimated that 833,000 American youth between the ages of 12 and 17 had carried a handgun at least once in the previous year (Garbarino et al., 2002).

A subset of guns from specific manufacturers is disproportionately involved in gun violence, with large caliber semiautomatic pistols with large ammunition magazines representing 50 percent of crime guns tracked by ATF in 1999. These guns quickly move from legal distribution points to illegal recipients, including youth, often following predictable pathways (Garbarino et al., 2002). The effectiveness of state and local gun control laws are reduced when guns can be bought in other jurisdictions and imported. Several interstate trafficking pathways for illegal guns have been documented; they begin in states where gun sales are loosely regulated and end where guns are more difficult to acquire, e.g., from the Southeast to the Middle Atlantic states and New England, and from the Central South to the Upper Midwest.

Review of Evidence

Although the Centers for Disease Control and the National Institute of Health had until recently been barred from conducting research on guns, there is ample evidence to show that gun availability is a risk factor for both homicide and suicide. The evidence base is likely to widen, as on January 16, 2013, by executive order, President Obama directed the Centers for Disease Control and Prevention to “conduct or sponsor research into the causes of gun violence and the ways to prevent it” (The White House, 2013). Funding is being made available to states to expand the agency's National Violent Death Reporting System (NPR, 2014)

In an extensive review of studies, (Hepburn & Hemenway, 2004) found that households with firearms are at higher risk for homicide, and that there was no net beneficial effect of firearm ownership. Results from cross-sectional international studies find that in high-income countries with more firearms, both men and women are at higher risk for homicide, particularly firearm homicide. Time series and cross-sectional studies of U.S. cities, states, and regions and for the U.S. as a whole, find a statistically significant association between gun prevalence and homicide. Hepburn concludes that, although none of the studies prove causation—and that even the causal direction is open to interpretation—the available evidence is consistent with the hypothesis that increased gun prevalence increases the homicide rate.

Using data from around the world, Hoskin’s (Hoskin, 2001) cross-sectional examination of the relationship between firearm availability and homicide rates across 36 countries found a large statistically significant positive association. A two-wave panel analysis of firearm availability and homicide rates for 29 countries indicated that availability has a significant positive relationship with

national homicide rates. Hoskin further found that homicide rates do not influence levels of firearm availability.

In an international study, Bangalore (Bangalore & Messerli, 2013) found that among 27 developed countries, there was a significant positive correlation between guns per capita per country and the rate of firearm-related deaths ($r = 0.80$). Bangalore found that gun ownership was a significant predictor of firearm-related deaths. Bangalore concluded that the number of guns per capita per country is a strong and independent predictor of firearm-related and that gun ownership does not make a nation safer. The countries with more civilian guns also had the highest rates of firearms deaths, with the United States leading the list at 10 deaths per 100,000, based on an international mortality database. Gun ownership was strongly associated with firearms deaths (Shute, 2013)

In the U.S., Stolzenberg (Stolzenberg & D'Alessio, 2000) used four years of county-level data drawn from the National Incident-Based Reporting System for South Carolina and a pooled cross-sectional time-series research design and identified a strong positive relationship between illegal gun availability and violent crime, gun crime, and juvenile gun crime. Stolzenberg found that there was little or no effect of legal gun availability on violent crime. Roberts (D. W. Roberts, 2009) found that firearm ownership increased the likelihood of intimate partner homicide by a factor of 5.38 in the period 1985-2004.

In a study of all 50 U.S. states, Siegel (Siegel, 2013) found that gun ownership was a significant predictor of firearm homicide rates (incidence rate ratio = 1.009). Siegel's model indicated that for each percentage point increase in gun ownership, the firearm homicide rate increased by 0.9%, although causation could not be determined. States with higher rates of gun ownership did, however, have disproportionately large numbers of deaths from firearm-related homicides.

High gun availability alone does not, however, explain the high rate of gun related deaths in the U.S.. Altheimer (Altheimer & Boswell, 2012) concluded that gun availability does not operate uniformly across nations to influence levels of violence and that the relationship between gun availability and violence is shaped by socio-historical and cultural processes. Altheimer found that greater gun availability increases gun homicides in Western developed nations (including the U.S.) and in Latin America, but negatively influences rates of homicide in Eastern Europe. (See also the earlier section 'Why is there more violence in the U.S. than in other developed countries?'.)

As a counter-example to the U.S. case, about 32 percent of both U.S. and Swiss homes have guns, yet gun homicides rates are lower in Switzerland. On the other hand, Switzerland has a high proportion of firearm suicides (23.6 percent between 1998 and 2007) and the correlation between gun availability and suicide with guns is high (Ajdacic-Gross et al., 2010). In cantons where firearms ownership is higher, the proportions of firearm suicides are higher. In some countries, restrictions in the ownership of firearms have been associated with a decrease in their use for suicide (Krug et al., 2002). For example, while causality is not clear, the restriction of firearm availability in Switzerland resulting from a 50 percent reduction in the number of soldiers in 2003-2004 was followed by a reduction in both the overall suicide rate and the firearm suicide rate (Reisch et al., 2013).

Mechanisms

In the U.S., offenders and high school students report 'self-defense' as the most important reason for carrying firearms (Garbarino et al., 2002). This reasoning is seen as leading to an 'arms race' in which larger numbers of more lethal guns are acquired to defend against the guns already in

circulation. Adolescents presume that their counterparts are armed (or could easily become armed) and are willing to use guns, often at a low threshold of provocation. In some neighborhoods, local street codes reward displays of physical domination and offer social approval for carrying weapons. Guns can be symbols of power and status, as well as means of gaining status, domination, or material goods (Wilkinson & Fagan, 2002).

Exposure to gun violence has serious effects even for those who are not direct victims or perpetrators (Garbarino et al., 2002). Children exposed to gun violence may experience anger, withdrawal, post-traumatic stress, sleep disturbance, poor school performance, lower career aspirations, increased delinquency, risky sexual behaviors, substance abuse, and desensitization to violence. These effects can make children and youth more prone to violence themselves. Exposure to violence can normalize the use of violence to resolve conflicts and limit individuals' abilities to develop healthy relationships. Victims can suffer both visible scars and invisible altered patterns of brain activity.

Interventions

Methods for limiting the availability of guns include improved parental monitoring, safer storage, better enforcement of existing laws, new legislation to require licensing and registration, adding safety features to guns (e.g., safety grips, magazine decouplers, loaded indicators, and smart chips), and regulating private sales. Strategies that have been implemented in the U.S. include: tracing guns used in crimes, oversight of licensed dealers, screening prospective buyers and preventing high risk purchases, limiting the number of guns that can be purchased by one buyer, limiting the number of guns that can be purchased at one time, regulating the secondary gun market, and banning some types of weapons, e.g., Saturday Night Specials. Although evaluation data are limited, tracing guns used to commit crimes, strengthening the regulation of licensed dealers, and screening prospective buyers have shown promise in decreasing youth access to guns in both the legal and illegal markets (Garbarino et al., 2002).

Zuckerman (Zuckerman, 1996) found that studies in the US have had mixed results for 1980s gun control laws, with no strong evidence that reduced availability of legal handguns led to a reduction in violent crime. Most guns traced after having been used in a crime in 1999, including 53 percent of guns recovered from persons under age 18, were first sold by licensed dealers in the state in which they were recovered (Garbarino et al., 2002). Thirty percent of guns recovered from persons under age 18 were first sold in the county in which they were recovered or in an immediately adjoining county.

Training in the safe use of guns and buying back guns have not been found to be effective in reducing gun violence (Garbarino et al., 2002; Krug et al., 2002). Various storage practices (such as storing guns and ammunition separately, and keeping guns unloaded and in locked places) and trigger-blocking devices are effective in preventing accidental gun violence, but training in these techniques has been found to be ineffective or even counter-productive for both children and adults. One study of gun owners found that “[i]ndividuals who have received firearm training are significantly more likely to keep a gun in the home both loaded and unlocked” (Garbarino et al., 2002).

In a synthesis of research findings about behavioral approaches to gun violence prevention, Hardy (Hardy, 2002) found that these programs have not shown success in reducing youth gun injury and violence. Furthermore, some argue that these programs may do more harm than good by giving youths the impression that gun carrying is the norm and increasing their interest in using guns.

Legislation to Control Firearms

Examples of U.S. state-led legislative controls of firearms (based on WHO, 2010)

Bans on certain firearms: Maryland's ban on small, low-quality, inexpensive hand guns was associated with an increase in gun purchases prior to implementation and an increase in firearms homicides immediately after the ban. Firearms homicides then decreased, suggesting that the ban had a delayed effect.

One-gun-a-month: Laws that limit the purchase of firearms to one per individual per month aim to reduce access to weapons among potential traffickers. The use of such legislation in Virginia was found to reduce interstate trafficking of firearms purchased in the state.

Keeping guns out of reach of children: Child-access prevention (CAP) legislation requires owners to store firearms safely away from children and makes the failure to do so a criminal offence. Studies have associated CAP laws with modest reductions in firearms (and overall) suicides among adolescents and, in states where violation of CAP laws is a serious crime (felony), reductions in unintentional firearms fatalities among children.

Gun show regulation: In California, gun shows are regulated, promoters must be licensed, and private firearms sales are highly restricted. This has resulted in a lower incidence of anonymous, undocumented firearms sales and illegal 'straw' purchases in CA than in states with weaker regulation of private sales and gun shows. In 2014 the U.S. Supreme Court ruled that all straw purchases are illegal (BradyCampaign, 2014).

Keeping guns away from violent offenders: The 'Brady Law' (The Brady Handgun Violence Prevention Act of 1993) prohibits 'high risk' persons from purchasing firearms from federally licensed dealers, manufacturers, or importers. Included in the proscription are persons convicted in any court of a misdemeanor crime of domestic violence, convicted in any court of a crime punishable by imprisonment for a term exceeding one year, and restrains the person from harassing, stalking, or threatening an intimate partner or child of such intimate partner. From the inception of the law in 1994 through 2010, approximately 2.1 million attempts to purchase a gun were blocked, with about half of these blocked attempts by felons. (Department of Justice, 2013).

Several states have enacted additional legislation to ensure that all persons subject to a restraining order protecting an intimate partner or their children are covered. Some of these laws also allow police to confiscate firearms at the scene of acts of violence against intimate partners. Research on the impact of such legislation has found that restraining order laws have reduced intimate-partner homicide in states where authorities have a strong ability to conduct background checks and prevent offenders from purchasing firearms.

Training in the safe use of guns and buying back guns have not been found to be effective in reducing gun violence (Garbarino et al., 2002; Krug et al., 2002). Various storage practices (such as storing guns and ammunition separately, and keeping guns unloaded and in locked places) and trigger-blocking devices are effective in preventing accidental gun violence, but training in these techniques has been found to be ineffective or even counter-productive for both children and adults. One study of gun owners found that "[i]ndividuals who have received firearm training are significantly more likely to keep a gun in the home both loaded and unlocked" (Garbarino et al.,

2002). In a synthesis of research findings about behavioral approaches to gun violence prevention, Hardy (Hardy, 2002) found that these programs have not shown success in reducing youth gun injury and violence. Furthermore, some critics argue that these programs may do more harm than good by giving youths the impression that gun carrying is the norm and increasing their interest in using guns.

In a 2010 review, the World Health Organization found no evidence of effective interventions for gun violence, but did find some emerging (i.e., promising) interventions. WHO found that there is evidence that jurisdictions with restrictive firearms legislation and lower firearms ownership tend to have lower levels of gun violence. Restrictive firearm licensing and purchasing policies – including bans, licensing schemes, minimum ages for buyers, and background checks – have been implemented and appear to be effective Australia, Austria, Brazil, and New Zealand, and in a number of U.S. states. “Studies in Colombia and El Salvador indicate that enforced bans on carrying firearms in public may reduce homicide rates. Introducing national legislation can be complicated, but much can be done at the local level. Stiffer enforcement, amnesties, and improved security for state supplies of firearms are some of the other promising approaches. Multifaceted strategies are also needed to reduce demand for guns – diverting vulnerable youth from gang membership, for instance” (WHO, 2010).

Operation CeaseFire Boston used a gun market disruption strategy that focused on shutting down illegal diversions of new handguns from retail sources. Multivariate regression analyses were used to estimate the effects of the intervention on new handguns recovered in crime. *Operation CeaseFire* has been rated as Effective by CrimeSolutions. “Ceasefire was associated with a 22.7 percent reduction in the average monthly percentage of all recovered handguns that were new and a 24.3 percent reduction in the average monthly percentage of all recovered youth handguns that were new, as well as with a 29.7 percent reduction in the average monthly percentage of illegal possession handguns that were new and a 17.4 percent reduction in the average monthly percentage of all recovered substantive crime handguns that were new (all reductions were statistically significant)” (NIJ, 2014) .

Programs that target gun violence—rather than gun availability per se—include *Operation Peacekeeper* in Stockton, CA (Effective), *CureViolence* in Chicago (Promising), *Project Safe Neighborhoods* in Chicago (Promising), and Indianapolis *Directed Patrol* (Promising). These programs have shown mixed results, with no strong evidence that overall gun violence has been reduced.

Summary: Gun Availability

- Gun availability is correlated with many kinds of violence, but other factors are also involved. Youths cite ‘self-defense’ as their main reason for carrying guns.
- There are 200 million guns in the US, guns are the weapons of choice for both homicide and suicide, and there is a strong correlation between illegal guns (and guns in homes) and violence. Large caliber semi-automatic handguns with large magazines represent some 50 percent of all guns associated with violent crimes.
- Training and gun buybacks do not appear to have the intended effects. Legislation, registration, and safety features may be more effective, but have been blocked in the US. *Operation Cease Fire Boston* successfully disrupted illegal gun supply.

Media

Negative Media Impact

Inconsistent findings. The role that violent images in a variety of media, including television and computer games, play in heightening arousal, thoughts, and emotions which make children more likely to engage in aggressive behavior has been well-established by research (Browne & Hamilton-Giachritsis, 2005). However, when it comes to violent behavior and violence-related outcomes across different ages, research suggests violent media does not have a universal impact, but rather that factors such as age, sex, and trait aggression influence what effect, if any media has on violence.

Predisposition to aggression. Some quasi-experimental studies provide supporting evidence for the theory that violent media has a larger impact on those whose personality or experiences predispose them to aggression (Browne & Hamilton-Giachritsis, 2005). Additionally, one experimental study found that both trait aggression and gender had an effect on young adults' perceptions of how they perceived and reacted to interpersonal conflict after exposure to violent media, a finding which offers some support to the theory that trait aggression may influence how violent media affects youth. Namely, after watching a violent film, high trait-aggressive participants reported more callous and hostile tendencies in their perceptions, and the most extreme reports of aggressive thoughts and actions were from male high trait-aggressive participants (Kiewitz & Weaver Iii, 2001).

Age differences. One review found that exposure to violent media was linked to higher arousal levels and more aggressive thoughts, feelings, and behaviors for children, teens, and adults (Bushman & Huesmann, 2006). However, they noticed that across studies, children and teens appeared to have been differentially affected as compared to adults; long-term impacts on aggression were significantly larger for children and teens, while short-term impacts on aggression were larger for adults (Bushman & Huesmann, 2006). Although it did not involve young adult participants to serve as a comparison for the size of effects, another review corroborated the robustness of the short-term effect of violent media on aggression among children and adolescents, finding a significant increase in children's and adolescents' aggression across studies in which their aggressive behaviors were observed in unconstrained social situations immediately after they were exposed to some form of violent media, such a violent film (W. Wood, F.Y. Wong, & J.G. Chachere, 1991). When the focus was narrowed to violent video games, a slightly different differential effect based on age emerged. Namely, another review found that for children ages 4-8, playing a violent video game was associated with increased aggression during free play immediately afterwards, but that, because of mixed results and a lack of experimental studies, a relationship between exposure to violent media and violent behavior could not be established for adolescents or young adults (Bensley & Van Eenwyk, 2001).

Directionality. Another consideration with regard to factors that may predispose youth to be aggressive as they relate to exposure to violent media is directionality. That is, it must be determined whether those who are predisposed to aggression are more strongly influenced by violent media than others, or whether their predisposition makes them more likely to prefer violent media, in which case the media itself may have little impact on their aggression. As much of the research regarding media's impact has been correlational, rather than experimental, there is not sufficient evidence to disentangle this relationship. One study found that, among adolescents, a preference for violent video games was associated with significantly more problem behaviors overall and more thought problems, but not significantly more externalizing problems, including aggression (Funk et al., 2002). Taken at face value, these findings suggest that choosing to consume violent media,

regardless of the reasons for this choice, may not itself be a risk factor for aggressive behavior. However, researchers note that these outcomes were self-rated and that desensitization from playing violent video games may have blunted teens' ratings of their own aggression.

Interventions

While a number of programs have been created to increase media literacy among youth, some with a particular focus on violent media, few interventions have explicitly targeted violent behavior outcomes. One exception is a school-based German intervention that aims to reduce both exposure to violent media and aggressive behavior among middle school-age children. The intervention consisted of five weekly 90-minute sessions for youth and two parent sessions which were delivered by researchers who were trained by the study's first author. In order to help students consume violent media less frequently, researchers asked students to monitor their electronic media consumption, discussed the prominence of media in their lives, challenged them to spend a weekend without using electronic media, and suggested alternative leisure activities. Similarly, to help students consume violent media more critically, researchers taught students to identify positive or normalizing presentations of violence in the media and to understand the short-term and long-term impacts that violent media could have on their thoughts and behaviors and guided them in the creation of videos about what they had learned. In the first parent session, similar information was presented to parents, and they were also taught how to set guidelines and monitor media use to help their children decrease their exposure to violent media. In the second session, parents watched the videos created by their children.

A recent randomized control trial evaluated the program's impact on 683 7th and 8th grade students in Germany. Seven months after the end of the program, students who had participated in the intervention had a significantly larger decrease in their use of violent media (Möller et al., 2012). In addition, among students who had high levels of aggression at baseline, those who participated in the intervention reported significantly less physical and relational aggression than did their peers in the control group (Möller et al., 2012). This impact was mediated by positive intervention impacts on students' normative acceptance of aggression; that is, findings suggest that a change in students' beliefs about aggression was the mechanism underlying the program's impact on aggression (Möller et al., 2012).

Another program developed in the U.S. has a similar focus on reducing children's exposure to violent media, but aims to do so by educating the parents of preschool-age children about media consumption. The program was delivered by case managers and focused on encouraging more educational or prosocial consumption of media, particularly television and videos, rather than less media consumption overall. It involved the implementation of several components, beginning with a home visit during which the case manager met with the parent to discuss their child's media use, give them informational handouts, and set goals for their child's media consumption. Over the next 12 months, case managers conducted monthly follow-up calls with parents, when they discussed parents' progress and helped them trouble-shoot problems. Case managers also sent monthly mailings, which included a program guide for educational and prosocial shows available to each family and a newsletter which included information about positive media behaviors for parents, like watching TV with their children; the first six mailings also included clips of educational or prosocial shows that children might like.

A randomized control trial was conducted recently among 557 parents and their 3-to 5-year-old children to evaluate this program (Christakis et al., 2013). At the 6-month posttest, children whose parents participated in the program spent approximately the same amount of time consuming

electronic media, but significantly less time on violent media and significantly more time on educational or prosocial media. Moreover, children whose parents participated in the program had significantly larger gains in social competence at both 6- and 12-month posttests, as well as significantly larger decreases in externalizing problems at 6 months and a trend towards larger decreases at 12 months. When results were stratified by children's gender and families' income, the program significant impact on externalizing problems was carried by its large impact on low-income boys. In addition, the program was rated favorably by parents who participated in it; 77 percent said they would recommend the program to other parents.

Positive Media

Positive media is intended to promote pro-social behaviors and to change beliefs that underlie negative behaviors through film, documentaries, TV and radio dramas, news and game shows, music and visual art, games, web sites, web and pod-casts, apps, call-in radio shows, music videos, programming for children, Public Service Announcements (PSAs), and social media (Keener, 2012). Wherever media can be consumed, both in urban and rural settings, positive media can be used to address social issues.

PSAs have long been a part of American culture. The U.S. War Advertising Council (now the Ad Council) was established in 1941 to influence American society through advertisements. Early campaigns focused on the country's needs during World War II, such as encouraging Americans to invest in government bonds, not to share sensitive information, and to encourage women to enter the workforce. After the war, PSAs were used to influence the public on a broader range of issues, including forest fires, blood donations, and highway safety. Recent PSA campaigns have sought to prevent gay and lesbian bullying, dating abuse, domestic violence, and crime (AdCouncil, 2014). Some PSAs have enlisted famous persons, particularly from the world of entertainment, to promote their messages. Television shows with special episodes have been followed by relevant PSAs, e.g., an episode of *Law & Order: Special Victims Unit* about child abduction and an episode of *Law & Order* that focused on drunk driving. During the 1980s, some cartoon shows contained PSAs at the end of their shows, although they were not always relevant to the episodes.

Modern “edutainment,” in which the ‘advertisement’ is embedded in the program itself, started in the 1950s with the *The Archers* on BBC4 radio in Britain, which is the longest running soap of any kind anywhere in the world. Its original purpose was to teach farmers in the United Kingdom how to grow more and better crops (Dickey, 2013). In the 1970s and early 1980s, the Televisa network in Mexico produced *telenovelas* (soap operas) that have been credited with increasing interest in family planning and adult literacy.

Television programs targeted to younger viewers often portray helping behavior. Examples include Sesame Street, Dora the Explorer, and Dragon Tales, which are popular with preschoolers. Arthur and The Wild Thornberrys are intended for younger elementary school children, and The Suite Life of Zack and Cody and Drake and Josh for older elementary school children (Future of Children, 2014).

Review of evidence

Many public health campaigns, including those that targeted drunk driving, Sudden Infant Death Syndrome (SIDS), youth smoking, and physical movement have achieved significant changes in outcomes. For example, a systematic review (Elder et al., 2004) of the effectiveness of mass media campaigns for reducing alcohol-impaired driving and alcohol-related crashes found that the median

decrease in alcohol-related crashes resulting from the campaigns was 13 percent. Other examples of effective campaigns include:

- The Back to Sleep campaign targeting Sudden Infant Death Syndrome (SIDS) – the US SIDS rate declined from 120 deaths per 100,000 live births in 1992 to 56 deaths per 100,000 live births in 2001, representing a decrease of 53% over 10 years (Pediatrics, 2011);
- The Truth youth smoking prevention – by 2002, rates 1.6% lower (300,000 fewer smokers) (Holtgrave et al., 2009); and
- CDC VERB physical movement – 58.3% of those who saw all three ads became more active (M. Peterson, Chandlee, & Abraham, 2008).

A review (B. J. Wilson, 2008) of television programming for children found that exposure to educational programs and situation comedies targeted to youth can increase their altruism, cooperation, and tolerance for others. A meta-analysis of 34 studies on the effect of TV viewing of pro-social content on children's social interactions (Mares & Woodard, 2005) determined that children's programs depict about four altruistic acts per hour and that viewing this type of pro-social television content increases altruistic behavior in children. The average effect size that pro-social content have on children's social interaction was estimated as 0.27. Pro-social content on TV was especially helpful in inducing good behaviors among children from middle- to upper-class settings and children around age 7.

Television programming that models positive parenting behaviors has also been found to influence caregivers' behavior, particularly related to discipline. Studies conducted by Sanders and colleagues documented improvements in parents self-reported parenting behaviors (M. Sanders et al., 2008) and in children's problem behavior (M. R. Sanders, Montgomery, & Brechman-Toussaint, 2000) after parents had been exposed to mainstream television programming related to parenting behaviors, such as *Families* and *Driving Mum and Dad Mad*. Sanders and colleagues also found that exposure over a two-week period to seven brief audio podcasts covering positive parenting strategies was also associated with an increase in parenting efficacy and a decrease in child behavior problems six months later (Morawska, Tometzki, & Sanders, 2014).

In other countries, there is evidence that entertainment broadcast media have played a large role in bringing about changes in beliefs and behaviors (Ryerson, 2010). The 1970s Mexican telenovela (soap opera) *Acompañame* is credited with influencing more than 2,000 women to register as voluntary workers in the national family planning program (an idea suggested in the show), increasing contraceptive sales by 23 percent in one year (compared to a seven percent increase the preceding year); and prompting more than 560,000 women to enroll in family planning clinics, an increase of 33 percent (compared to a one percent decrease the previous year) (Sabido, 1981). *Telenovelas* have also been credited with helping to bring down the birth rate and stimulating literacy in Mexico and Brazil. Dramas have supported the search for women kidnapped and trafficked in Argentina, and are used in the fight against AIDS in the Caribbean (Dickey, 2013).

Mechanisms

Serial dramas exploit 'para-social relationships,' i.e., the watchers' emotional attachments to the characters in the dramas, to strengthen the message. The serial allows listeners or watchers to form bonds with the characters, while also allowing the characters' thinking and behavior to evolve at a believable pace (Ryerson, 2010). The use of a combination of media, e.g., soap operas in combination with game shows and public service announcements or commercials, is ideal for

significant results. These media reinforce values or portions of social values through identification processes, moral confrontations, behavior models, and vicarious experiences (Sabido et al., 1982).

PSAs featuring famous persons also appeal to the watchers' emotional attachment, but in this case to the person delivering the message, in the hope that this will make the message stronger.

Interventions

Computer programs and games, social media, text messaging, and mobile telephone applications are beginning to be used as vehicles for interventions, but as yet there is little evidence for their effectiveness in preventing violence. (See the 'Health Sector' sub-section under 'Intervention Approaches by Sector' later in this report for information on how technology is being used to enhance screening, disseminate skills, and change the behavior of caregivers and youth.)

Many localities have developed 'dashboards' and other Internet web sites to share and collect data about services and metrics, including crime incidents. Geographical Information Systems are used to visually summarize and provide access to data, and have been used to identify violence 'hot spots'. For example, CyberWatch, in the city of Memphis, allows subscribers to click on a map or criminal case to access more information, sends out alerts about crimes in a three-mile radius of the subscriber, and accepts tips about past or current criminal activity (Memphis, 2014). The city of Camden, NJ, is developing an interactive community software system (ICAN) that will allow residents to report crimes, concerns, and issues in a way that is safe and confidential and that will get a timely response from law enforcement (Camden, 2014). The city of New Orleans is developing an app called Realtime Resources Mobile Application to display social service resources in real time (NewOrleans, 2014).

In international development, television soap operas with pro-social messages developed by NGOs and local groups have been funded by the U.S. Agency for International Development. Two U.S. organizations that have developed positive media are PCI Media Impact and Search for Common Ground (SFCG). SFCG asserts that "[w]hile a dialogue affects dozens, media impacts millions" (SFCG, 2014). SFCG uses media to provoke thinking and discussion across societies about the root causes of violence and how to overcome differences. SFCG's media production arm develops fictional dramas and real life stories illustrating constructive alternatives to violence, to bridge differences, and build peace. With TV programs in 18 countries and radio programs in 21 countries, SFCG programs reach 86 million persons per year.

An example of SFCG's programming is a radio soap opera, produced in partnership with a local NGO in Nepal. 'Naya Bato Naya Paila' or 'New Path New Footprints' has all the drama of soap operas, but also provides role models to youths on how they can participate in peace building, decision making in their communities, and fostering inter-generational dialogue. Another example is *The Team in Yemen* and versions of the same formula in sixteen other countries. "We took the world's most popular sport, football [i.e., soccer], and combined it with this form, the dramatic series, with dramatic effect." Typically, the team that is the focus of the story is made up of persons from the ethnic, tribal, religious or economic groups in the society, and they have to learn to work together. "You have eleven spots on a football team, and you can put all the conflicts in a country in those eleven spots." SFCG programs often have a strong subtext about fighting gender stereotypes.

PCI's main medium is the long-running drama, but PCI also uses animation and talk shows to reach and teach target audiences. An example of PCI's programming features the struggles of a woman in Bihar province in India fighting to plan and raise her family. When the parents threw a birthday party for their daughter it sparked a small revolution, because in Bihar only boys had birthday

parties, not girls. After the episode was aired, girls' birthdays also started being celebrated (PCI, 2014).

Summary: Positive Media

- Popular media can be used to change beliefs and promote pro-social behavior over time. In the US, successful examples include PSAs and children's programs.
- A review and a meta-analysis of children's programming both found positive effects on altruism and behavior. Mexican telenovelas promoted family planning.
- PSAs in the US (e.g., breast feeding, seatbelts), and soap operas internationally, are incorporating positive messages. This is an emerging area with many new possibilities, e.g., social media and smartphone apps (see health section).

VI. Intervention Approaches by Sector

Education Sector

The school environment is an integral part of the lives of most school-aged children living in the U.S. Students spend a substantial part of their days, and overall childhood and adolescence, in schools; as such, the school environment is a ripe context for addressing violence and correlates of violence. Not only can schools work toward improving issues related to violence from the school and classroom level, but given their regular interactions with children and their families, schools are in a unique position to address individual correlates of violence and engage caregivers. Indeed, schools may provide programs for parents or refer children and families for counseling and services that can address risk and protective factors for violence. The education sector can also serve to address school-wide issues of school climate, school connectedness, school performance, bullying, and antisocial peers, as well as individual characteristics such as self-regulation and hostile attribution biases.

Many of the correlates of violence that fall within the education sector can be addressed at the student level, particularly concerning school performance, bullying, antisocial peers, self-regulation, and hostile attribution biases. While distinct, each of these correlates has links to child characteristics, especially to their social and emotional competencies, which feature directly and indirectly into violent outcomes. Competent social and emotional development is linked to better achievement and self-regulation, and fewer instances of bullying, interactions with antisocial peers, and tendencies toward hostile attributions.

Given the breadth of outcomes that are associated with social and emotional development, it is important that the school context promotes policies, programs, and practices that help foster these skills. CASEL defines social and emotional skills to include self-management, self-awareness, social awareness, relationship skills, and responsible decision making. Programs such as *Positive Action*, *Second Step*, and *PATHS* are well-known programs that promote positive peer relationships, emotion regulation, and emotion understanding. There are also programs, such as GREAT, that promote assertiveness and resistance skills which are important to deter the influence of deviant peers. It is important to note that many of these programs are cross-cutting in that they address a number of correlates linked to violence; however, not all have been evaluated with regard to violent outcomes or correlates. Additionally, many SEL programs target younger children but it is critical that programs also address antisocial behaviors that are more prevalent among older students. When selecting a program, it is important to consider the correlated risk and protective factors that are addressed, the outcomes on which the program has been assessed, and the population for which the program is suited.

Certainly the school environment should set clear expectations and norms, and create a culture that values prosocial behavior while demoting the delinquent behavior often linked to violence. This school culture is especially important for school connectedness and school climate. Given that these are much broader constructs that are comprised of many stakeholders, including students, families, teachers, and administrators, it is difficult to identify a single program that addresses overall school connectedness or school climate. There are some examples, such as Raising Healthy Children which aims to promote connectedness or the Positive Behavior Intervention Supports framework that is often tied to school climate reform. However, much more common for school-wide issues, are creation of relevant policies and identification of strategies. School-wide efforts should engage relevant stakeholders in the school improvement process. Such buy-in can aid in both

implementation and sustainability of efforts. There are tools available that school can use to assess need and organizational capacity, and to aid in planning and implementation.

In sum, the education sector provides a number of opportunities for multiple stakeholders to collaborate and contribute positively to school, classroom, families, and children as a means of improving positive outcomes and reducing violence and related behaviors. It is important to capitalize on resources, knowledge, and programs to best meet the needs of students and, ultimately, society.

Interventions

The educational setting is ripe for addressing correlates of violence, including those related to individual characteristics and interpersonal skills. Every school, however, has different levels and types of violence and students at those schools have varying needs for prevention and intervention programming. There is no one-size-fits-all program that will work for each school. Instead, the “best bet” for the education sector is to engage in strategic organizational capacity building, such as the processes developed in *Communities That Care*, PROSPER Partnerships, or the School Climate Improvement Process. These models help schools identify areas of need, build buy-in from the community at large, and implement programs and practices that fit with a school’s context, are feasible, and will be effective.

Several school-based programs can be widely implemented and address multiple correlates of violence. Evidence-based and promising programs such as *Second Step, Too Good For Violence* (TGFV), and *Good Behavior Game* represent programs that have demonstrated efficacy across multiple contexts and for multiple outcomes. *Second Step* is a curriculum that can be implemented in early learning, elementary, and middle school setting to improve social and emotional competencies through interactive lessons. *Second Step* has been found to improve social competence skills, which can serve to reduce bullying perpetration and victimization, as well as engagement in hostile attributions. TGFV aims to prevent violence and promote character education among kindergarten through 8th grade students. TGFV has been found to improve protective factors such as attitudes towards delinquent behavior, resistance of peer pressure, and emotional competence. The *Good Behavior Game* is a classroom-based intervention designed to reduce aggressive and disruptive behaviors and can be implemented with elementary schools students. Long-term studies have shown positive impacts of the *Good Behavior Game* on substance use, antisocial behavior, and criminal activity.

In addition, the provision of health care services and referrals, including services for behavioral health issues and reproductive health care, can be undertaken in school-based clinics or by school-based health professionals. Even if they do not provide direct services, schools can be locations for screening and referral.

Health Sector

The health sector represents a large part of the U.S. economy, but it takes myriad forms, ranging from hospitals, doctors, insurance agencies, public health officials, and therapists and counselors. Several key roles are highlighted here, including health sector approaches to prevent unintended pregnancy, to prevent and treat substance use/abuse, to identify parents who need assistance with childrearing, to identify and treat violent behaviors, and to serve as advocates for a reduction in gun violence. In addition, organizations in the health sector can work for public policies that will reduce violence, such as effective initiatives to reduce gun violence. Also, making insurance more widely

available can provide the resources for screening, prevention, and treatment services. This sector is in substantial flux, given passage of the Affordable Care Act, which may open the door to new initiatives. In addition, technology offers considerable promise for new approaches to every aspect of health care.

Prevent and Treat Substance Use. Public health education to prevent abuse of alcohol and illegal drugs represents an initial step, while efforts to treat substance abusers represent the second critical step. Numerous evidence-based programs have been identified above, that meet this need. It is important to keep in mind that substance abuse has a generational effect on violence. Not only does youth alcohol consumption increase their own risk for violence, but substance abuse within the family increases the risk for youth violence through a variety of pathways such as the effect of pre-natal exposure to alcohol on brain development and increased exposure to violence in the home or the effects. As a result, health providers must assess problem alcohol and drug use of youth and their caregivers.

Technology-enhanced screening. Brief trainings, such as *Play Nicely*, have been found to expand the repertoire of healthcare professionals, increasing the likelihood that they will ask about aggression and that they will suggest age-appropriate, proactive strategies (Scholer et al., 2008; Scholer et al., 2012). For older youth, there is evidence that computerized screening tools for risk factors such as substance abuse, exposure to violence, mental health, suicide are effective in soliciting information in an efficient and cost-effective manner (Chisolm et al., 2008; Fein et al., 2010; W. Gardner et al., 2010; Goodyear-Smith et al., 2013). The *Treatment Outcomes Package* (TOP) is an assessment tool that is available in hard-copy and on-line versions that can be completed by youth, parents, and other adults including teachers and social workers (Kraus et al., 2010). The TOP provides valuable clinical information to identify behavioral health needs and provides a common metric to track progress over time and across providers. Increasing the use of screeners and self-administered assessments is important because research suggests that health providers who access the results of such screenings at the same visit are more likely to address those identified concerns (Stevens et al., 2008).

Dissemination of skills. In order to increase the use of proven interventions by healthcare professionals, it is necessary to increase dissemination of evidence-based practices. Technology is increasingly used to increase professionals' access to trainings. For example, *Play Nicely*, the multimedia intervention, noted above, to increase parents' use of parenting behaviors that reduce aggression in young children, has a component that targets healthcare providers. Studies have found that medical residents who were exposed to the 40-minute multimedia presentation reported increased comfort in asking parents about aggressive behavior (Scholer et al., 2008), and they were more likely to suggest proactive behaviors such as redirecting and promoting empathy (Scholer et al., 2012) compared to a control group. Some researchers are also beginning to explore on-line, virtual training strategies. For example, a recent study examining the feasibility of using avatars to provide pediatricians with opportunities to role-play motivational interviewing skills found that all of the participants considered the virtual role-play to be helpful and realistic (Radecki et al., 2013). Virtual role-play software has also been developed to train school staff in dealing with bullying of LGBTQ students (Jenkins, 2014).

Computer-based interventions to promote behavior change in caregivers. Interactive, computerized programs have also been used in hospitals, clinics, and even public spaces such as libraries and fast food restaurants, to provide age-appropriate information to parents regarding safety, injury prevention, and discipline (Scholer, Hudnut-Beumler, & Dietrich, 2010; Thompson, Lozano, & Christakis, 2007; M. J. Williams et al., 2012). Evaluations of programs such as *Safe*

N'Sound and *Play Nicely* have documented changes in care givers' behavior based on short-term follow-ups (Nansel et al., 2008; Scholer, Hudnut-Beumler, & Dietrich, 2011).

Television-based interventions. Television programming that models positive parenting behaviors has also been found to influence caregivers' behavior, particularly related to discipline. Studies conducted by Sanders and colleagues documented improvements in parents self-reported parenting behaviors (M. Sanders et al., 2008) and in children's problem behavior (M. R. Sanders et al., 2000) after parents had been exposed to mainstream television programming related to parenting behaviors, such as *Families* and *Driving Mum and Dad Mad*. Sanders and colleagues also found that exposure over a two-week period to seven brief audio podcasts covering positive parenting strategies was also associated with an increase in parenting efficacy and a decrease in child behavior problems six months later (Morawska et al., 2014).

Text-messaging interventions. *Text4baby* is another intervention that relies solely on technology. Individuals sign up for the intervention via a text message and then receive text messages throughout their pregnancy with relevant information. The intervention is designed to build knowledge and skills to manage one's own health and prevent health risks by avoiding smoking and drinking, receiving recommended immunizations, and avoiding similar behavioral risk factors; a randomized pilot study found that participants in the intervention perceived themselves to be much more prepared for new motherhood than those receiving care as usual (Evans, Wallace, & Snider, 2012).

Some programs have begun to integrate text messaging as a way to increase the reach and efficacy of interventions that have typically relied on in-person sessions. An evaluation of Parent-Child Interaction Therapy, an evidence-based intervention for children with disruptive behavior, found that parents who received the abbreviated intervention had similar outcomes to parents receiving the standard intervention at a two-year follow-up (Nixon et al., 2004). The abbreviated intervention included the same number of sessions, although half of the in-person sessions were replaced with a combination of viewing a video in which PCIT skills were modeled followed by a 30-minute phone consultation.

Other programs use technology to increase the efficacy of programming, rather than reducing in-person sessions. *Safe Care* is a program that provides parents of young children with in-home coaching to increase parenting skills to prevent challenging behaviors (Gershater-Molko, Lutzker, & Wesch, 2003). Researchers randomized parents to the traditional program, the cell-phone enhanced program, which including individualized, supportive text messages related to parenting behaviors as well as information about age-appropriate, free activities in the area, or to a wait list control group. Results indicate that parents receiving the cell-phone enhanced intervention reported greater use of positive parenting strategies and were also rated by observers as implementing more positive parenting behaviors during a 20-minute parent-child activity session (Carta et al., 2013).

Technology-enhanced in-person interventions. Interactive, computerized interventions have also been developed to target behavior change among youth. In some cases, technology is used to enhance in-person interventions. For example, the *SafERteens* program consists of a computerized, universal screener for substance use and violence as well as a single computerized or therapist-delivered, computer-assisted intervention administered to adolescents admitted to an emergency department (Cunningham et al., 2009). Other programs have integrated mobile phones as a way to support youth in maintaining gains that they have made during in-person therapy sessions. Preliminary results from a pilot evaluation of project ESQYIR found that a 12-week mobile-based intervention for youth transitioning out of community-based substance abuse were significantly less

likely to have relapsed at a 3-month follow-up compared to youth receiving care as usual (Gonzales et al., 2014). The mobile intervention consisted of daily self-monitoring texts, a daily wellness recovery tip, and substance abuse education and social support resource information on weekend.

Mobile phone applications. Interventions that rely on mobile technology, often referred to as mHealth, are a promising area; although most evaluations to date have focused on acceptance and usability or changes in knowledge/attitudes rather than behavior changes. *Mobylyze!*, a mobile phone application that has been developed by the Center for Behavioral Intervention Technologies at Northwestern University, relies on a “context-aware” system whereby the software learns to interpret data from the environment via sensors as well as the content of other programs, including text messaging, video gaming, etc. As the application “learns” more about the individual, it is able to infer the participant’s mood state and provide relevant information including supportive messages or reminders to use a tool or particular coping strategy. In addition, participants receive brief, weekly telephone and e-mail contact with coaches who have been trained on a manualized curriculum. Preliminary pilot data indicate that participants experienced a significant reduction in depressive anxiety symptoms (Burns et al., 2011). While this technology currently targets mental health, it seems plausible that such interventions could also support youth who are seeking to reduce aggressive behaviors and increase self-regulation.

Computer games. *PlayForward: Elm City Stories*, developed by the play2PREVENT lab at Yale University, is an interactive game that provides youth with opportunities to learn and practice skills related to HIV prevention and preliminary results indicate that the number of game levels completed was associated with increases in knowledge (Fiellin et al., 2014). The developers are hoping to expand into violence-related topics as well, including bullying and teen dating violence (personal communication, July 30, 2014).

Media exposure and relationship with violence. While technology offers many new and exciting options for addressing and preventing violence for young people, it also contributes to the issue of violent media exposure. The role that violent images in a variety of media, including television and computer games, play in heightening arousal, thoughts, and emotions which make children more likely to engage in aggressive behavior has been well-established by research (Browne & Hamilton-Giachritsis, 2005). However, when it comes to violent behavior and violence-related outcomes across different ages, as noted above, research suggests that violent media does not have a universal impact, but rather that factors such as age, sex, and trait aggression have an impact on what effect, if any media has on violence.

One review found that exposure to violent media was linked to higher arousal levels and more aggressive thoughts, feelings, and behaviors for children, teens, and adults (Bushman & Huesmann, 2006). Multiple reviews have found a relationship between children and teen’s exposure to violent media and a short-term increase in aggression among children and adolescents (Bushman & Huesmann, 2006; Wendy Wood, Frank Y. Wong, & J. Gregory Chachere, 1991). Another review found that, for children ages 4-8, playing a violent video game was associated with increased aggression during free play immediately afterwards, but that, because of mixed results and a lack of experimental studies, a relationship between exposure to violent media and violent behavior could not be established for adolescents or young adults (Bensley & Van Eenwyk, 2001).

Media Interventions

While a number of programs have been created to increase media literacy among youth, few interventions have explicitly targeted media exposure or critical media consumption with the aim to

reduce violent behavior outcomes. One exception is a school-based German intervention that aims to reduce violent outcomes in middle-school-age children by teaching them to consume violent media less often and more critically. Over five 90-minute sessions, children and their parents learn ways to monitor and reduce their media consumption and how to identify and think critically about media that presents violence positively or normalizes it. Findings from a recent randomized with 7th and 8th graders are promising; at the seven-month follow-up, students who participated in the intervention reported significantly less consumption of violent media. Additionally, intervention participants with high baseline aggression reported significantly less physical and relational aggression at this follow-up. Moreover, this impact was mediated by positive intervention impacts on students' normative acceptance of aggression; that is, findings suggest that a change in students' beliefs about aggression was the mechanism underlying the program's impact on aggression (Möller et al., 2012).

Another program developed in the U.S., described above, targets even young children and presents an innovative approach to reducing violent media exposure and violent outcomes. Namely, instead of attempting to reduce children's media exposure overall, case managers use in-person meetings, mailings, and phone calls to teach parents how to replace violent media, such as television and videos. Findings from a recent randomized control trial with parents of 3-to 5-year-old children are also promising (Christakis et al., 2013). At the 6-month posttest, children of participating parents spent significantly larger amount of time consuming prosocial or education media, instead of violent media. Moreover, the program also had a positive impact on behavior; children whose parents participated in the program had significantly larger gains in social competence at both 6- and 12-month posttests, as well as significantly larger decreases in externalizing problems at 6 months and a trend towards larger decreases at 12 months. When results were stratified by children's gender and families' income, the program significant impact on externalizing problems was carried by its large impact on low-income boys. In addition, the program was also well-liked by participating parents; 77 percent said they would recommend the program to other parents.

Interventions for Parents in the Health Sector

In recent years, the health sector has been included in the prevention of child maltreatment. This strategy is promising because children are bound to have contact with health professionals at least once a year during a child wellness visit. The *Safe Environment for Every Kid* (SEEK) project is an approach delivered in doctors' offices to identify and assess risk factors for child maltreatment during well child health visits. More specifically, the SEEK project, this approach educates health care professionals about the risk factors of child maltreatment and provides a hands-on strategies to identify them in the office setting. This approach also trains health care professionals to use screening questionnaires in well-child visits to assess the presence of the risk factors associated with child maltreatment; and, if deemed present, the health care provider is trained and supported by a social worker to further assess the nature and extent of the risk. Then, if necessary, the social worker helps the child's family access community resources to obtain needed supports. An evaluation study of this program found promising evidence that the SEEK approach may reduce child maltreatment (abuse and neglect) in low-income urban populations. Families randomly assigned to SEEK were less likely to be referred to child protective services, be identified as medically neglecting their children, and use harsh parenting compared with families not randomized to this pediatric approach (Dubowitz, Feigelman, Lane, & Kim, 2011).

Interventions and Promising Practices to Prevent Sexual Assault and Relationship Violence

Preventing violent romantic relationships and unplanned pregnancies that result from violent relationships is a complex task. Public health experts tend to agree that the best approach is primary prevention, but as with many types of violence, relationship violence often operates as part of a cycle and it is hard to pinpoint the beginning of a continuous cycle.

School based health centers offer a unique opportunity to target youth and adolescents at various points in their school career and offer a range of health and wraparound services. Identifying youth who are at risk of violent victimization as well as perpetration not only increases academic outcomes but improves overall school climate. In addition to targeting these root causes of violence, school based health centers are in a unique position to provide reproductive health services and mental health services which can help to mitigate some of the traumatic side effects of violent partner relationships (i.e., unplanned pregnancy and depression).

Long acting reversible contraceptive access for teens and young adults is a relatively low cost and easy way to prevent unplanned pregnancy. Further, LARCs and the shot are some of the more resistant methods to birth control sabotage.

Evidence-based programs for adolescents addressing relationship education, teen pregnancy prevention, or teen dating violence prevention represent another promising approach. Each community should assess which program best fits their population based on the evidence available. As mentioned above, many of these programs contain cross-cutting themes or modules and teens may benefit from multiple program approaches.

Batterer's intervention programs that are culturally tailored and have a holistic approach that considers the needs of individuals and families may quite possibly work better than the batterer's intervention programs currently operating across the country. Given the high rate of recidivism among men who complete these programs, it is clear that a shift in thought around how these programs operate needs to take place. La Cultura Cura and Men Stopping Rape are promising practices for these programs moving forward. *MOVE* is an example of a program that drastically changed the way batterer's intervention programs operate and has already seen positive evaluation results in a mother-child intervention sample.

Clearly there is much that organizations and individuals in the health sector could do to prevent and treat the risk and protective factors associated with violence. Approaches implemented in the health sector can be funded by local, state, or federal funds, by foundation grants, or by public or private insurance. However, whether individuals are covered, whether evidence-based approaches that prevent or treat violence are covered, and whether treatments are available, accessible and high-quality will all affect the extent to which the health sector can contribute to reducing violence.

Screening in medical settings as a way to prevent youth violence

As this report has demonstrated, there is no one cause – and thus no single cure – for youth violence. However, one consistent theme is the importance of prevention and early intervention when it comes to exposure to risk factors such as abusive relationships and substance use. Unfortunately, all too often it is not until a youth is either a perpetrator or victim of violence that he or she is linked to effective services and supports. Medical offices, including pediatric clinics and emergency departments, can play a critical role screening young people – and their caregivers – for important risk factors. The following section briefly outlines some recommendations related to screening by medical providers. The table below displays the different risk factors that are most

relevant at particular ages. It should be noted that, as with all screenings, the recommendations below are effective only when there are adequate interventions that are accessible to individuals who screen positive.

Figure 4 - Recommended Screenings by Age Group

	Early Childhood	School Age	Adolescent
Abuse and neglect			
Behavioral health			
Domestic violence			
Firearms			
Parental depression			
Substance use			
Sexual activity			
Teen dating violence			
Teen pregnancy			

Abuse and neglect

The United States Preventive Services Task Force (USPSTF) has found no evidence to support the efficacy of interventions in primary care settings to prevent child maltreatment (USPSTF, 2013). However, the American Academy of Pediatrics, which does not recommend universal screening for child maltreatment, does encourage all pediatricians to observe and assess parenting practices during office visits in order to identify families that may benefit from intervention (Flaherty, 2010). While it may seem that systematic screening for child abuse in emergency departments could help to identify cases of child abuse, two recent reviews of the literature found no evidence to that effect (Louwers, 2009; Woodman, 2010). However, there is promising evidence to suggest that screening for child abuse among the children of adults who present in an Emergency Room with problems related to intimate partner violence, suicide or serious mental illness, or substance abuse can be an effective way to identify children at high risk for maltreatment (Diderich, 2013). It should be noted that the USPSTF(2013), Louwers et al (2009) and Woodman et al (2010) all cautioned that there is a dearth of high-quality studies from which to draw conclusions.

Behavioral and emotional health

The USPSTF recommends screening for major depressive disorder in youth older than 11 (S. B. Williams, O'Connor, E. A., Eder, M., Whitlock, E. P., 2009). Early screening is important because most adults with a mental health condition experienced their first symptoms before the age of eighteen (Kessler, 2005). There is also evidence to suggest that screening adolescents who have been diagnosed with depression for suicide risk can help to link youth with effective services and reduce their risk of suicide (Mann, 2005). Bright Futures¹, a national health care promotion and

¹ Bright Futures is a national health care promotion and disease prevention initiative of the American Academy of Pediatrics that uses a developmentally based approach to address children's health care needs in the context of family and community. Its purpose is

disease prevention initiative of the AAP, provides pediatricians with a schedule of screening questionnaires to assess behavioral and emotional health beginning in preschool.

Domestic violence

After initially finding insufficient evidence to recommend screening women for intimate partner violence in 2004, the United States Preventive Services Task Force (USPSTF) recently endorsed screening women for intimate partner violence (H. D. Nelson, Bougatsos, C., Blazina, I., 2012). In 2010, the American Academy of Pediatrics recommended that pediatricians engage in either universal or targeted screening (i.e., assessing caregivers who present with particular signs, symptoms, or risk factors) of domestic violence (Thackeray, 2010).

Firearms

The AAP recommends that pediatricians screen for the presence of firearms in the home at all ages, as well as asking older youth whether they have access to a firearm (Dowd, 2012). The AAP has also developed *Connected Kids: Safe, Strong, Secure*², a guide for pediatricians on integrating violence prevention efforts into their practice. Screening for firearms is particularly critical for youth who are at risk for suicide (D. A. Brent, Perper, J. A., Allman, C. J., Moritz, G. M., Wartella, M. E., & Zelenak, J. P., 1991).

Parental depression

The AAP recently recommended that pediatricians screen mothers for postpartum depression at their baby's one-, two-, and four-month visits (Earls, 2010). There is evidence that screening for postpartum depression can be effective, although a report published by the US Department of Health and Human Services Agency for Healthcare Research and Quality noted that benefits of screening are largely dependent on the presence of accessible treatment services (Myers, 2013).

Substance use

The National Institute on Alcohol Abuse and Alcoholism recommends that youth as young as nine be screened for alcohol use, starting by asking whether the youth has any friends who drank alcohol in the past year (NIAAA, 2011). The AAP also recommends that primary care physicians discuss the harmful effects of substance abuse with caregivers starting with prenatal visits (Kulig, 2005). The AAP also recommends that pediatricians use the CRAFFT questionnaire, which consists of six questions, to identify adolescents with substance abuse problems (Knight, 2002).

Teen dating violence

While it is recommended that youth with risk factors such as symptoms of depression or anxiety; alcohol use; and engaging in risky sexual behaviors should be screened for teen dating violence, there is also broad support for regular and universal screening as well – particularly using computerized screening tools that allow youth to feel more comfortable when answering personal questions (Cutter-Wilson, 2011; Rickert, 2009).

to promote and improve infant, child, and adolescent health within the context of family and community. See brightfutures.aap.org for more information.

² Connected Kids: Safe, Strong, Secure offers child healthcare providers a comprehensive, logical approach to integrating violence prevention efforts in practice and the community. The program takes an asset-based approach to anticipatory guidance, focusing on helping parents and families raise resilient children. See <http://www2.aap.org/connectedkids/> for more information.

Adolescent Reproductive Health

Comprehensive sexuality education to encourage adolescents to delay sex and avoid unprotected sex is a critical role that schools, medical providers, and others can provide. Briefly screening to identify sexually active adolescents represents an important approach to preventing pregnancy and sexually transmitted infections.

Justice Sector

As with the health sector, the justice sector is large, and laws and practices vary across jurisdictions. Efforts to reduce child abuse fall under the justice umbrella, as do efforts to treat or incarcerate violent offenders, and efforts to reduce the availability of firearms and to increase safety in order to minimize accidents.

Gun Availability Interventions

Although evaluation data are limited, some approaches to limiting young persons' access to guns show promise. Tracing guns used to commit crimes, strengthening the regulation of licensed dealers, and screening prospective buyers have shown promise in decreasing youth access to guns in both the legal and illegal markets. The Boston Gun Project and similar programs in other cities have included efforts to target violent offenders, but it is difficult to show that any reductions in violence are due to these efforts.

Various storage practices (such as storing guns and ammunition separately, and keeping guns unloaded and in locked places) and trigger-blocking devices are effective in preventing accidental gun violence, but some studies have found that training in these techniques to be ineffective or possibly even counter-productive for both children and adults.

In a 2010 review, the World Health Organization found no effective interventions for gun violence, but did find some emerging (i.e., promising) interventions. WHO found that there is evidence that jurisdictions with restrictive firearms legislation and lower firearms ownership tend to have lower levels of gun violence. Restrictive firearm licensing and purchasing policies – including bans, licensing schemes, minimum ages for buyers, background checks – have been implemented and appear to be effective Australia, Austria, Brazil, and New Zealand, and in a number of U.S. states.

The 'Brady Law,' which was enacted in 1993 and prohibits 'high risk' persons from purchasing firearms from federally licensed dealers, manufacturers, or importers has been successful in limiting access to firearms and has blocked millions of sales. Recognizing the importance of legislation, Mayors Against Illegal Guns (MAIG), a nationwide coalition of mayors, has begun a push for 'common-sense' gun laws (MAIG, 2014). These and other efforts have yet to overcome strong opposition at the national level.

Interventions for Parents in the Justice Sector

The justice sector has been included in the prevention of child maltreatment and out-of-home placement. Various intervention programs have been developed to educate and provide parents appropriate and effective parenting practices to reduce the rates of child maltreatment and out-of-home placement. For example, the HOMEBUILDERS program is intensive family preservation service and reunification program for families with children aged zero to seventeen at risk for, or who are in, foster care, residential treatment, psychiatric hospitals, or juvenile justice system. The objective of this program is to prevent out-of-home placement and to improve family functioning. More specifically, the program is intended for caregivers to improve their parenting skills, capacity to

parent, parent-child interactions, and the safety of the family. *Wendy's Wonderful Kids* is an initiative that has been effective in its efforts to find adoptive homes for children and youth in foster care, based on results from a recent randomized study.

Another program included in the justice sector is the *Jackson County (Ore.) Community Family Court (CFC)*. This program is for substance using parents whose children are in the child welfare system. It coordinates wraparound services and interventions to help parents achieve sobriety, gain appropriate parenting skills, learn ways to keep children safe, and achieve family reunification. A study of the CFC found promising evidence for parent treatment outcomes in that parents in the CFC were more likely to complete drug abuse treatment compared to parents who were not in the program. However, CFC did not have promising findings for child welfare outcomes. While children of parents in CFC spent fewer days in foster care, they had more episodes of foster care placements compared to children whose parents were not in the program.

In addition, incarceration of parents represents an issue for families. While violent household members represent a risk factor for growing children, lengthy incarceration, sometimes in remote locations, for a number of non-violent offenses can undermine family functioning. If effective prevention and treatment services were available rather than lengthy incarceration, families might be strengthened and family-level correlates of violence might be reduced.

For youth who have engaged in violent or delinquent behavior, the justice sector also plays a critical role in deciding whether and how the juvenile will be punished and/or receives treatment and training instead of incarceration. Given high levels of repeat offending, approaches to avoid incarceration and to substitute preventive services and treatment services seem likely to reduce the frequency and levels of violence among youth.

Community Sector

Communities vary enormously across the United States. Moreover, it is very difficult and costly to randomly assign communities to treatment and control conditions, making it difficult to rigorously assess the impact of intervention strategies. Are there strategies that have been found successful in reducing violence or that show promise toward this goal?

Collective/Neighborhood Efficacy Interventions

Although the directionality of the relationship between collective efficacy and violence is problematic, a few programs have demonstrated that targeting community awareness can be effective. These include campus “*communities of care*” and *Bringing in the Bystander* for sexual violence. A program was implemented within a traditional neighborhood to support residents in identifying and establishing community norms that bolstered pro-social behavior and mutual trust, and to teach residents how to intervene directly in inappropriate neighborhood behaviors (Ohmer, 2010). The Baltimore Community Conferencing Center has since 1998 convened over 900 ‘conferences’ to support low-income neighborhoods in community-building and developing and implementing community-based responses to conflict and crime by taking collective responsibility.

The *Aban Aya* Youth Project seeks to reduce and prevent five problem behaviors for African American youth, including violence. Boys receiving the program showed less of an increase in violence compared to boys who had not received the program. The OJJDP Model Programs Guide rates *Aban Aya* as a Promising intervention.

Cure Violence (formerly known as CeaseFire) in Chicago uses highly trained street violence interrupters and outreach workers, mentoring, public education campaigns, and community mobilization. A significant decline in the median density of shootings (shootings per square mile) in was found and there were significant shifts in gang homicide patterns. The OJJDP Model Programs Guide rates Cure Violence as a Promising intervention.

Positive Media Interventions

Community is not necessarily defined by geographic location, but can refer to communities linked by common values, interests, or activities. Targeting relevant communities is an efficient way to reach the affected population; however broad-scale programs have also been implemented. Indeed, public health campaigns, including those that have targeted drunk driving, Sudden Infant Death Syndrome (SIDS), youth smoking, and physical movement, have achieved significant changes in outcomes. Television programming for children can increase their altruism, cooperation, and tolerance for others, especially for children from middle- to upper-class settings and aged around seven.

Television programming that models positive parenting behaviors have also been found to influence care givers' behavior, particularly related to discipline. Exposure over a two-week period to seven brief audio podcasts covering positive parenting strategies was also associated with an increase in parenting efficacy and a decrease in child behavior problems. In other countries, there is evidence that entertainment broadcast media have played a large role in bringing about changes in beliefs and behaviors, including family planning and literacy.

Media exposure and relationship with violence

While technology offers many new and exciting options for addressing and preventing violence for young people, it also contributes to the issue of violent media exposure. The role that violent images in a variety of media, including television and computer games, play in heightening arousal, thoughts, and emotions which make children more likely to engage in aggressive behavior has been well-established by research (Browne & Hamilton-Giachritsis, 2005). However, as noted above, when it comes to violent behavior and violence-related outcomes across different ages, research suggests violent media does not have a universal impact, but rather that factors such as age, sex, and trait aggression have an impact on what effect, if any media has on violence.

One review found that exposure to violent media was linked to higher arousal levels and more aggressive thoughts, feelings, and behaviors for children, teens, and adults (Bushman & Huesmann, 2006). Multiple reviews have found a relationship between children and teen's exposure to violent media and a short-term increase in aggression among children and adolescents (Bushman & Huesmann, 2006; Wendy Wood et al., 1991). Another review found that for children ages 4-8, playing a violent video game was associated with increased aggression during free play immediately afterwards, but that, because of mixed results and a lack of experimental studies, a relationship between exposure to violent media and violent behavior could not be established for adolescents or young adults (Bensley & Van Eenwyk, 2001).

Interventions

While a number of programs have been created to increase media literacy among youth, few interventions have explicitly targeted media exposure or critical media consumption with the aim of reducing violent behavior outcomes. One interesting exception, described above, is a school-based German intervention that aims to reduce violent outcomes in middle-school-age children by

teaching them to consume violent media less often and more critically. Over five 90-minute sessions, children and their parents learn ways to monitor and reduce their media consumption and how to identify and think critically about media that presents violence positively or normalizes it. Findings from a recent randomized with 7th and 8th grade are promising (Möller et al., 2012).

Another program developed in the U.S. that targets even young children and also presents an innovative approach to reducing violent media exposure and violent outcomes. Namely, as described above, instead of attempting to reduce children's media exposure overall, case managers use in-person meetings, mailings, and phone calls to teach parents how to replace violent media, such as television and videos. Findings from a recent randomized control trial with parents of 3-to 5-year-old children are promising (Christakis et al., 2013). When results were stratified by children's gender and families' income, the program significant impact on externalizing problems was carried by its large impact on low-income boys. In addition, the program was also well-liked by participating parents; 77 percent said they would recommend the program to other parents.

Cross-cutting Comprehensive Interventions

There are several relatively new initiatives that cut across sectors and are intended to address violence prevention at multiple levels. Although it is too early for evaluations of these efforts, they are based on interventions that have been shown to be effective and can therefore be regarded as promising.

National Forum on Youth Violence Prevention

The National Forum on Youth Violence Prevention, established by President Obama in 2010, is a network of communities and federal agencies that work together to share information and build local capacity to prevent and reduce youth violence. The Forum's three goals are to: elevate youth and gang violence as national issues; enhance capacities of localities to prevent this violence; and sustain progress through engagement, alignment, and assessment.

Ten communities (six in 2010, and another four in 2012) are developing city-wide strategies that combine prevention, intervention, treatment, and re-entry strategies. The comprehensive plans span multiple sectors and disciplines, including justice, education, public health and safety, communities, social services, businesses, philanthropic organizations, and faith-based organizations.

No evaluations of the effectiveness of the National Forum interventions have as yet been completed.

Defending Childhood

Attorney General Eric Holder launched the Defending Childhood initiative on September 23, 2010, to focus on preventing, addressing, reducing, and more fully understanding childhood exposure to violence (NIJ, 2012). Defending Childhood builds on lessons learned from previously funded research and programs such as Safe Start, the Child Development-Community Policing Program, and the Greenbook Initiative. In 2010, DOJ awarded grants to eight sites in cities and tribal communities around the country to develop strategic plans for comprehensive community-based efforts to demonstrate the initiative's goals. During the assessment and strategic planning phase, which ended in April 2011, the demonstration sites conducted assessments to identify community needs and proposed methods for preventing children's exposure to violence, treating the psychological effects of exposure, and increasing awareness of youth violence and resources. Each of these sites received additional support in 2011 to help launch, sustain, and expand programs and

organizations focused on the development of community-based solutions to address the problem. Implementation and evaluation began in October 2011, when the sites started putting their proposed plans into action. Phase II was planned to run until September 2013. In addition to the demonstration program grants at four sites, DOJ is committing additional funding for evaluation. No violence specific-evaluations have as yet been completed.

My Brother's Keeper

The My Brother's Keeper Task Force was established to develop a coordinated Federal effort to improve expected life outcomes for boys and young men of color, including Black Americans, Hispanic Americans, and Native Americans (TheWhiteHouse, 2014). President Obama launched the My Brother's Keeper Initiative on February 27, 2014, to address persistent opportunity gaps faced by boys and young men of color and to ensure that all young people can reach their full potential. The intent is to connect young people to mentoring, support networks, and the skills they need to find good jobs or go to college and work their way into the middle class.

My Brother's Keeper is focused on the following milestones:

1. Getting a Healthy Start and Entering School Ready to Learn - All children should have a healthy start and enter school ready – cognitively, physically, socially and emotionally.
2. Reading at Grade Level by Third Grade - All children should be reading at grade level by age 8 – the age at which reading to learn becomes essential.
3. Graduating from High School Ready for College and Career - Every American child should have the option to attend postsecondary education and receive the education and training needed for quality jobs of today and tomorrow.
4. Successfully Entering the Workforce - Anyone who wants a job should be able to get a job that allows them to support themselves and their families.
5. Reducing Violence (Keeping Kids on Track) and Giving Them Second Chances - All children should be safe from violent crime; and individuals who are confined should receive the education, training and treatment they need for a second chance. Employ methods to address racial and ethnic bias within the juvenile and criminal justice systems and remove unnecessary barriers to successful reentry and employment.

The Task Force provided its initial assessments and recommendations on May 30, 2014. These included:

- Reduce Violence in High-Risk Communities by Integrating Public Health Approaches
- Encourage Law Enforcement and Neighborhoods to Work Hand-in-Hand
- Reform the Juvenile and Criminal Justice Systems to Keep Youth on Track
- Eliminate Unnecessary Barriers to Reentry and Encourage Fair Chance Hiring Options
- The need for a comprehensive approach —preventing or addressing a range of issues at each step along the path from birth to adulthood
- A Cradle-to-College-and-Career Approach
- Learning From and Doing What Works
- Use evidence-based approaches and track what works
- Implement or augment strong family violence safeguards and engage men as leaders in ending violence against women.

- Encourage adoption and replication of practices that have significantly reduced violent crime at the individual and community levels.

The following foundations will together seek to invest at least \$200 million: the Annie E. Casey Foundation, Atlantic Philanthropies, Bloomberg Philanthropies, the California Endowment, the Ford Foundation, the John S. and James L. Knight Foundation, the Open Society Foundations, the Robert Wood Johnson Foundation, the W.K. Kellogg Foundation, the Kapor Center for Social Impact, and Nathan Cummings Foundation.

No evaluations of programs implemented under the My Brother's Keeper initiative have as yet been completed.

Community Based Violence Prevention Initiative

The Community-Based Violence Prevention (CBVP) initiative replicates practices associated with some of the most effective recent innovations in violent crime prevention and control, such as Cure Violence (formerly Chicago Cease Fire) and focused deterrence strategies advanced by the National Network for Safe Communities. CBVP assists localities and state programs that support a coordinated and multi-disciplinary approach to gang prevention, intervention, suppression, and reentry in targeted communities (OJP, 2014). CBVP aims to enhance and support evidence-based direct service programs that target both youth at risk of gang membership and youth already involved with gangs. CBVP provides grants to organizations to prevent, intervene, and suppress serious youth violence and may support activities such as: street-level outreach; conflict mediation; and the changing of community norms to reduce violence, particularly shootings. CBVP also involves cooperation with police and other local, state, and Federal agencies and depends heavily on a strong public education campaign to change community norms. Several CBVP programs focus on strengthening communities to increase their capacities to exercise informal social control and to mobilize forces – from businesses to faith leaders, residents, and others – to work together.

CBVP is adapted from the violence reduction work in several cities and the public health research of the last several decades. Evaluation research has identified programs that have demonstrated effectiveness in reducing the impact of risk factors.

The City University of New York's John Jay College of Criminal Justice is working with Temple University to design and implement a comprehensive process and outcome evaluation of CBVP (JohnJay, 2010). Although CBVP approaches represent promising strategies for violence reduction, empirical research assessing the impact of the initiatives is still developing. Results from the project will be available in 2016.

VII. Discussion, Conclusions and Suggestions for Research

Overview

Reducing violence is not controversial – virtually everyone would like to see reductions in injury, harm, and mortality due to violence. The question is how violence can be reduced. This report has provided a review of available research, evaluation, and promising approaches to identify programs, policies, and practices that can contribute to reducing high levels of violence in the United States.

In this report, we have sought to identify a broad range of determinants that predict a similarly broad range of types of violence. Then, to address these determinants, we have identified rigorously evaluated programs that have impacts on these factors. We have also sought to identify new approaches, where possible, to expand the range of opportunities to address the high and costly levels of violence in the United States. In addition, we have highlighted varied policies and initiatives that go beyond programmatic approaches; but we find a dearth of rigorous research on these apparently important factors. The same is true for cultural factors. There is little understanding of the beliefs or values that underlie the high rates of violence found in the U.S.

Our review has identified a number of common factors that are determinants of violence. These are factors that are consistently found to be associated with higher levels of violence across varied types of violence. That is, whether violence takes the form of delinquency, suicide, or domestic violence, there are many common predictors. Based on this review of the research, we have identified a number of predictors that, if addressed, could have the effect of reducing *multiple* types of violence. For example, child maltreatment and trauma are related to increases in every type of violence we considered, suggesting another reason (beyond the inherent importance of preventing harm to children) to prevent these adverse experiences. Other common determinants include domestic violence, gun availability, harsh parenting, low self-control and a lack of school connectedness.

Other predictors appear to be related to just some types of violence, for example, hostile attribution bias, dysregulated sleep, neighborhood collective efficacy, and unintended pregnancy. This may reflect an uneven research literature, such that some determinants have been heavily researched while others have not been as widely explored. Alternatively, it may be that some predictors have effects that are more universal, while others do not. Also, experiencing a combination of risk factors substantially elevates the likelihood of violence.

Cumulative Risk

Studies consistently find that children and youth who have been exposed to multiple forms of disadvantage, risk, or trauma are substantially more likely to have poor outcomes, including externalizing or acting out behavior. Substantial research on child development has identified factors that will undermine child well-being, including poor family functioning and parenting, violence, family poverty, toxic levels of stress, and child abuse; but they tend to be examined singly, in narrowly defined research studies. Recently, data became available to examine the implications of a set of adverse childhood experiences (ACEs) for a nationally representative sample of children. Analyses of the 2011-12 National Survey of Children's Health indicate that children with a larger number of adverse childhood experiences do worse on all of the measures of child well-being examined.

Not only does experiencing trauma in childhood have implications for child well-being, but a growing body of research indicates that experiencing multiple types of trauma during childhood is associated with numerous negative outcomes among adults.

Given this body of research that consistently finds that multiple risks have a cumulative and negative effect on child and youth development, screeners that identify children with multiple risk factors could help identify children who particularly need a prevention intervention.

Misperceptions

Despite the media emphasis on mental health issues as a major cause of violence, research indicates that mental health problems are only infrequently a cause of violence and are more often associated with an increased risk of victimization. Substance abuse is a far more substantial determinant of violence; and the combination of substance abuse and mental health problems is also a source of violence. This misperception seems to be fueled by media coverage of violent incidents that involve an individual with mental health issues and may detract from efforts to address mental health issues appropriately and from efforts to address truly important determinants of violence. Having said that, further research is needed to explore whether particular types of mental health issues are predictive of violence, even if most are not.

It is also important to note that parent mental health can represent a risk factor for children, if parents are unable to build positive relationships and provide consistent positive parenting.

Overlooked Opportunities

The review also identified some overlooked opportunities for reducing violence. School connectedness and, to a lesser extent, school performance, are both linked to violence. Research on ways to diminish negative experiences such as bullying while fostering positive experiences such as connectedness and school engagement is ongoing and much needed. Clearly there are many reasons to foster academic achievement and connectedness. Preventing violence represents another reason.

We also identified opportunities to expand the reach of currently available resources. For example, advances in technology make it easier to screen youth for risk factors related to violence. The use of texting and smart phone applications can increase the reach of already-proven programs to a wider audience as well as opening up the door to innovative new approaches, such as video games that teach and reinforce skills in a medium that is embraced by youth. Virtual trainings to help teachers and health professionals hone important skills related to violence prevention can also help to broadly disseminate evidence-based practices. Research to assess the relative effectiveness of varied formats, or of hybrid approaches to training that combine in-person with electronic training, can help improve efficiency and effectiveness.

Family planning represents another overlooked opportunity. We find that unplanned pregnancy is a predictor of many forms of violence directed at the mother, such as domestic violence, and the child, such as child maltreatment. Unplanned childbearing is also a predictor of delinquency, crime, and gang violence. It must be acknowledged that reaching individuals and/or couples in violent situations is not likely to be straightforward. However, research and evaluation on ways to prevent pregnancy among couples in violent relationships seems to be a high priority. Recognizing that there are many reasons to assist couples to avoid unplanned pregnancy, helping to reduce violence represents another, relatively ignored, reason.

In general, the importance of socioemotional learning needs to be elevated. Risk factors such as self-regulation provide malleable points of intervention that could have a number of positive

outcomes, including a reduction in violence. More work to develop and scale-up interventions that enhance socioemotional competencies is needed. Also, including measures of socioemotional competencies in evaluations would strengthen the knowledge base, especially if long-term follow-up studies were able to assess whether socioemotional gains predict less violence later in life.

Parenting has proven difficult to change; but represents an important risk factor for children's development, and we perceive considerable support for empowering parents to be the best parents for their child that they can be. Helping to prevent child abuse and neglect represent particularly critical paths, and approaches to identify trauma and treat children and parents are being developed. More programs that produce large effect sizes are needed. Also, programs that attract and retain at-risk parents are needed. Parent attendance at programs to enhance parenting represents a conundrum for program designers. Research to identify strategies to engage and maintain the involvement of at-risk parents is much needed.

Positive media represents an approach that seems to fly under the radar screen. Characters that role model positive behaviors, including positive approaches to conflict resolution, relationships, and interaction with peers and family, can help children and even youth to learn better social and emotional skills. The implications of negative and violent media have received considerable attention from researchers; the value of positive media warrants greater research attention as well.

At the same time, some issues, such as the role of American culture, have been difficult to explore. It is clear that the United States has higher levels of violence than most comparable nations; but it is not clear which cultural values or beliefs drive or permit such high levels of violence. Changing the public's understanding of violence seems an important avenue for efforts to reduce violence; but it may be necessary to conduct research on the values that citizens hold and how they are framed in order to understand how cultural values may contribute to ongoing high levels of violence.

As noted in the report, the antecedents of violence include well-documented disparities, particularly poverty, parent education, neighborhood quality, and family structure. While socioeconomic differences are theoretically malleable, we haven't focused on these because other routes to reducing violence appear to be more realistic. However, it is critical to note that these disparities underlie and magnify the importance of other risk factors. Accordingly, identifying ways to reduce social and economic disadvantages needs to receive ongoing research and policy attention.

Programs and Policies

While acknowledging the need for new and more effective programs and approaches, it is important to note that our review identified a number of programs that have been rigorously evaluated and found to have significant impacts on reducing varied forms of violence. Here we depict an array of exemplary programs identified in the course of this review, ordered according to the ages when the programs are appropriate (see Figure 5 – Proven Programs by Target Age). These programs are described in detail in LINKS (Lifecourse Interventions to Nurture Kids Successfully), Child Trends' data base of experimentally evaluated social programs for children and youth.

On the other hand, we also find that many programs have only been evaluated from a narrow perspective. That is, many programs have been evaluated only for a particular, specific outcome, though it appears likely that the program affects multiple outcomes or a constellation of related outcomes. For example, Botvin's Life Skills and Positive Action programs have been found to affect outcomes beyond those initially hypothesized to be confirmatory outcomes. While we do not want to endorse fishing for impacts, it may be appropriate for program evaluators to identify several theory-based confirmatory outcomes as well as a broader set of exploratory outcomes.

While our review identified effective programs, the extent to which these programs are offered in the nation and the proportion of all children and youth receiving any of these interventions are not known, nor is the extent to which they are reaching at-risk populations. In addition, evaluations frequently do not assess the long-term effects of even these fairly well-known effective programs. Incorporating measures of violence and the effects of violence into a microsimulation model (such as the Social Genome Model being developed collaboratively by the Brookings Institution, Child Trends, and the Urban Institute) would allow researchers to estimate the long-term implications of programs that reduce violence. For example, the effects of a program to reduce domestic violence could be incorporated into models that examine child development among preschoolers; the model would then track their development into middle childhood and adolescence and on through the transition to adulthood. Such a simulation, if undertaken with care and attention to detail, would provide the kind of longer-term information about the long-term effects of interventions to reduce violence, information that is generally not available at present.

Additional research is also needed to examine Federal, state, and local policies. State policies need to be highlighted because many of the laws and regulations that govern the determinants of violence are made and enforced at the state level. For example, regulations about child welfare, firearms, incarceration, substance use, and domestic violence are made at the state level or even the local level. In-depth qualitative studies are needed that explore how policies unfold at the local level. Studies are needed to help understand how policies are implemented and what it takes to reduce the determinants of violence in varied subgroups, such as multiple-risk families, ethnic and cultural subgroups, families experiencing intergenerational violence, individuals returning to the community after incarceration, and communities with high levels of crime and gang violence.

The implications of state-level policies can be assessed quantitatively by adding state-level data to survey data to explore whether and how varied policies affect individual behavior. Also, questions could be added to national surveys to support the study of multiple types of violence in one database. Overcoming the silos inherent in research on violence represents a critical goal, if the joint occurrence of varied types of violence and the common determinants of varied types of violence are to be examined.

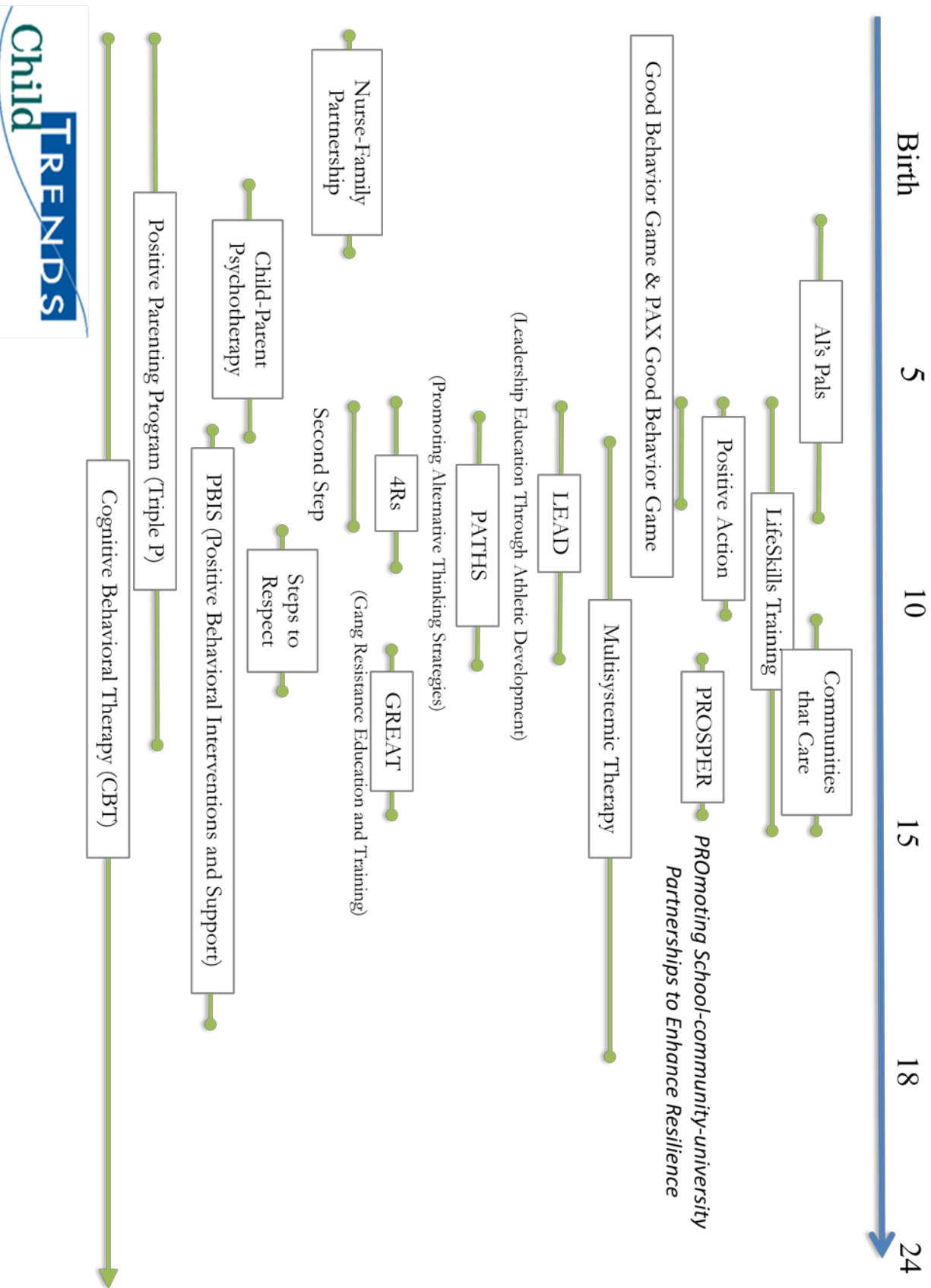
It is also possible to assess the association over time of state-level policies and outcomes measured at the state level. Child Trends has built a database of state-level policy and contextual factors to support such research. While a better understanding of the cross-sectional correlates of violence is useful, it would be better to assess how varied state policies are related to changes in types and levels of violence over time.

Additional Research Issues

Research is also needed that explores subgroup differences. While many of the determinants of violence appear to have broad effects, it would be worthwhile understanding whether differences by gender or age make a particular risk or protective factor more salient. Culturally-relevant programs and practices represent another important gap. While the nation is highly diverse, and becoming steadily more diverse, the availability of programs developed for and tested among varied populations, such as Native Americans, are scarce.

Figure 5 - Proven Programs by Target Age

Source: Child Trends LINKS (Lifecycle Interventions to Nurture Kids Successfully) Database



It is the case, of course, that causality is often complex. Many patterns of behavior are reciprocal. For example, a lack of self-regulation can result in bullying and being a bully can mean that a child isn't accepted by prosocial peers, so they fall in with antisocial peers such that self-regulation is further undermined. Similarly, in the case of mental health and substance use, it can be difficult to know whether mental illness is truly a risk factor, or whether there is some other underlying factor that contributes to the risk for both mental illness and substance use.

Longitudinal studies can help sort out issues of causality. Research that examines a broad range of types of violence, as well as a broad array of risk and protective factors, in one longitudinal study would help resolve the question of which determinants have the largest effects, which have the most general effects, and which determinants interact with background factors or with other determinants to most elevate the risk of violence.

In general, we found the research literature to be uneven and incomplete. Given that, until recently, the CDC and NIH were prohibited from conducting research on guns, this represents a particular gap in the knowledge base. Recommendations for research include studies that will:

- Examine the cultural values of U.S. society that underlie violence and explore whether and how that conversation might be broadened and leavened to include ways to reduce the incidence of violence in American life.
- Explore ways to conduct a national longitudinal survey of children and youth, approximately ages 12 -24, both those living in households and those in institutions, to understand the varied risk and protective factors in their lives and to learn how many participate in programs that might foster their development and reduce violence.
- Develop intervention approaches for individuals, families, schools, and communities that are relevant for varied populations, and that address the cultural and community differences that affect the incidence of violence.
- Propose a conversation among medical and child development groups and other groups concerned about firearm injury and death to explore constructive and feasible ways to reduce the incidence of violence.
- Examine the effects of state and local policies on varied types of violence and trends over time.
- Assess the effectiveness of proven and promising programs for diverse cultural groups; track outcomes for longer time periods; and assess the implications of combining programs for individuals or within a community.

Most of all, it is critical to focus on prevention. Once a violent act has occurred, be it bullying, child abuse, or murder, the consequences cannot be undone. Understanding how to build the private and public will to support the implementation of evidence-based programs, practices, and policies to prevent violence may represent the most urgent research need.

Appendix A – Violence Trends

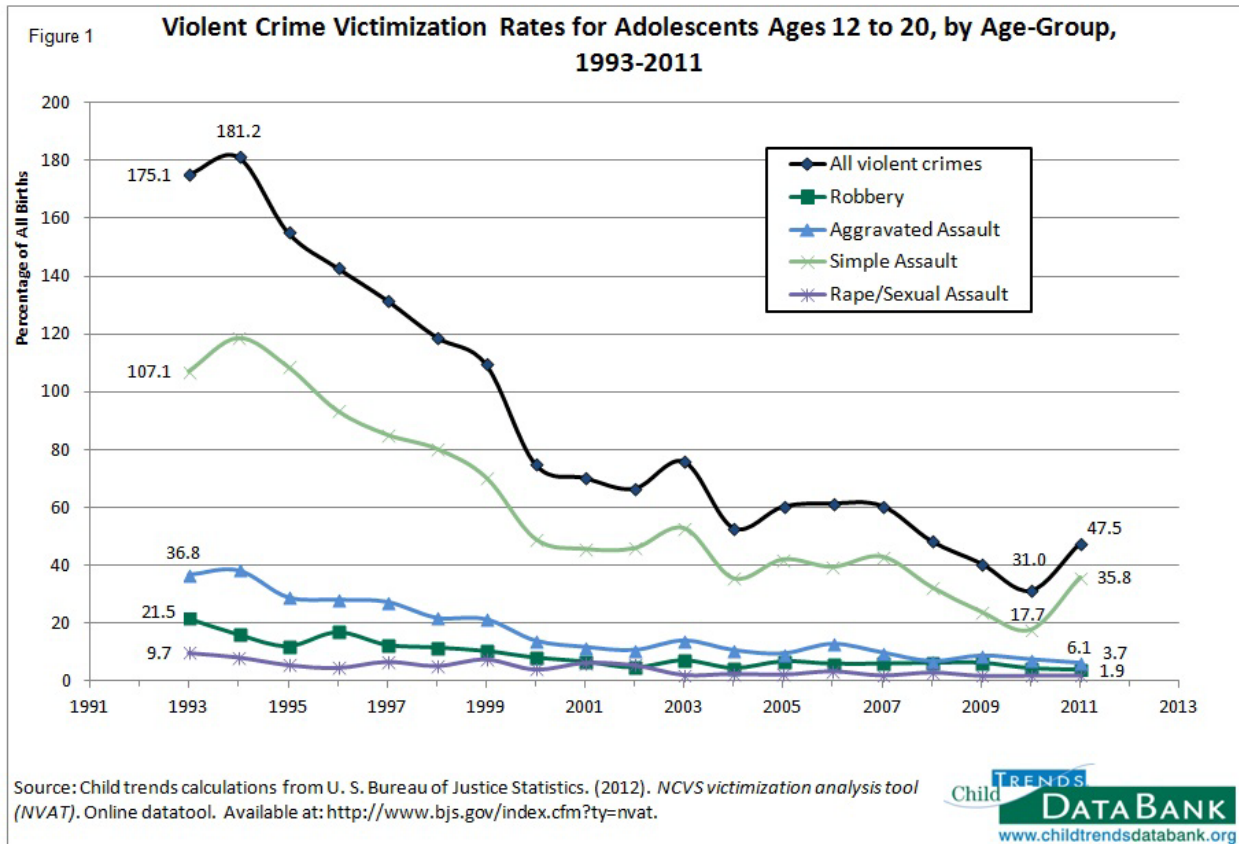
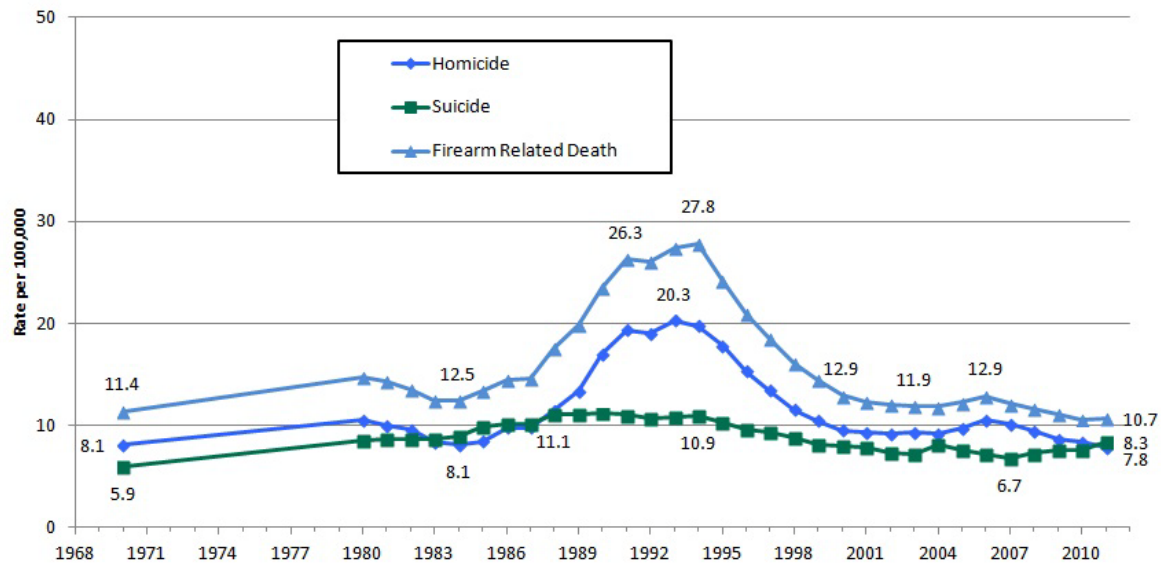


Figure 1

Rates (per 100,000) for Homicide, Suicide, and Firearm-Related Deaths of Youth Ages 15-19, Selected Years 1970-2011

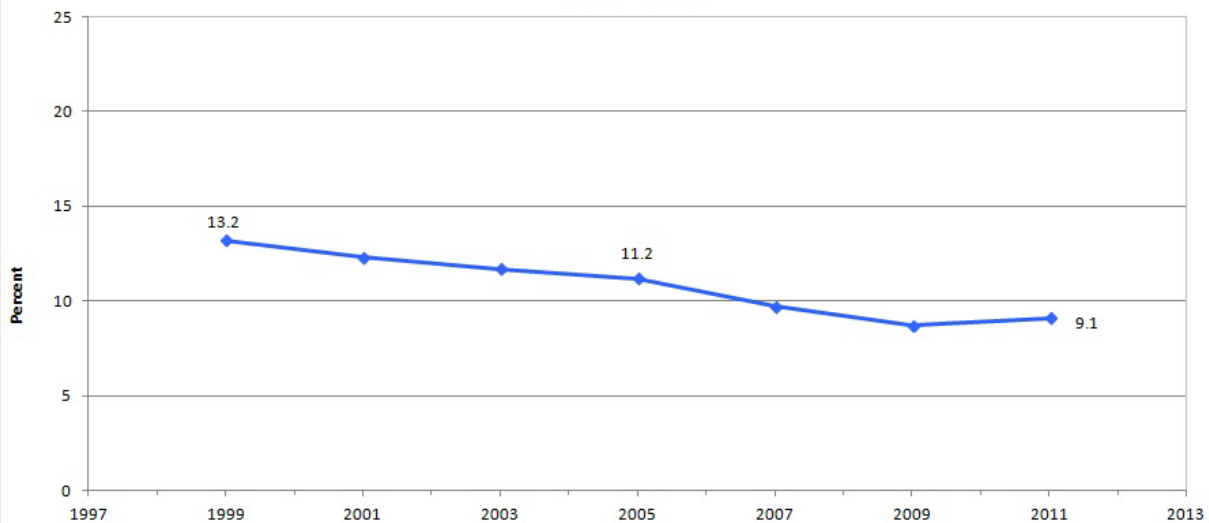


Data for 1970-1980: National Center for Health Statistics. (2002) *Health United States, 2002 With Chartbook on Trends in the Health of Americans*. National Center for Health Statistics. Tables 46, 47, and 48. Data for 1995-2011: Centers for Disease Control and Prevention. *Web-based Injury Statistics Query and Reporting System (WISQARS)* [Online]. (2014). National Center for Injury Prevention and Control, Centers for Disease Control and Prevention (producer). Available at www.cdc.gov/injury/wisqars/fatal.html

Child Trends
DATA BANK

Figure 1

Percentage of Students Ages 12-18 Who Reported Being Targets of Hate-Related Words at School During the Previous Six Months: Selected Years 1999-2011

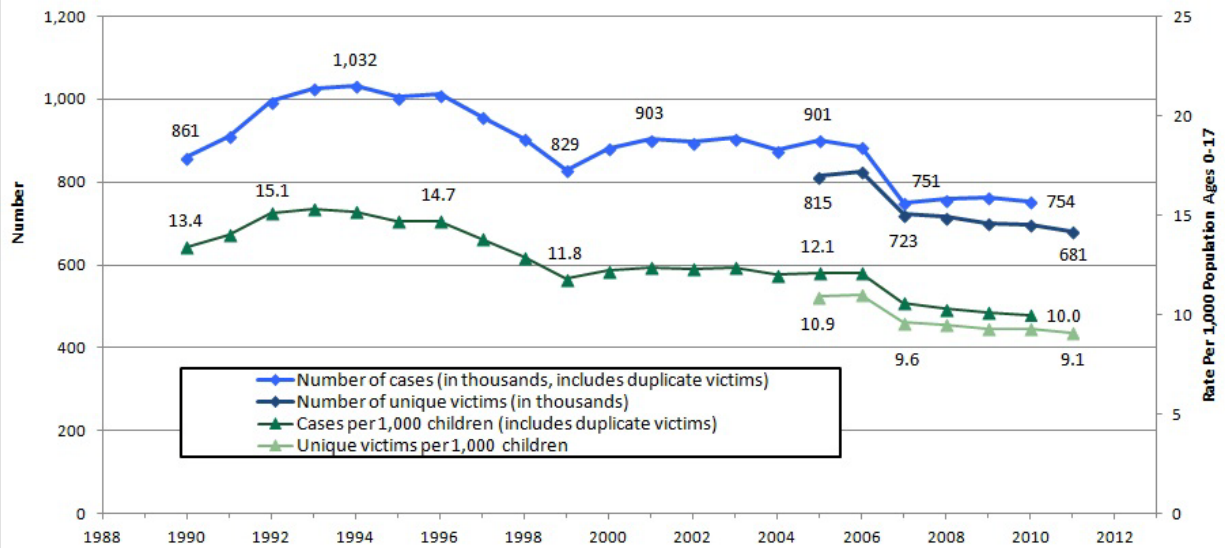


Note: After 2005, the reference period was the school year, instead of the previous 6 months. Cognitive testing showed that estimates from 2007 and 2009 are comparable to previous years. "At school" means in the school building, on school property, on a school bus, or going to and from school.

Source: Data for 2001-2011: Robers, S., Kemp, J., Truman, J., & Snyder, T. (2013). Indicators of school crime and safety: 2012 (NCES 2013-036/NCJ 241446). National Center for Education Statistics, U.S. Department of Education, and Bureau of Justice Statistics, Office of Justice Programs, U.S. Department of Justice. Washington, DC. Tables 10.1 and 10.2. Available at <http://nces.ed.gov/programs/crimeindicators/crimeindicators2012/>. Data for 1999: Kaufman, P., Chen, X., Choy, S. P., Peter, K., Ruddy S. A., Miller, A. K., Fleury, J. K., Chandler, K. A., Planty, M. G., & Rand, M. R. (2001). Indicators of School Crime and Safety: 2001 (NCES 2002-113/NCJ 190075). National Center for Education Statistics, U.S. Department of Education, and Bureau of Justice Statistics, Office of Justice Programs, U.S. Department of Justice. Washington, DC. Table 14.1. Available at: <http://www.bjs.gov/index.cfm?ty=pbdetail&iid=991>

Figure 1

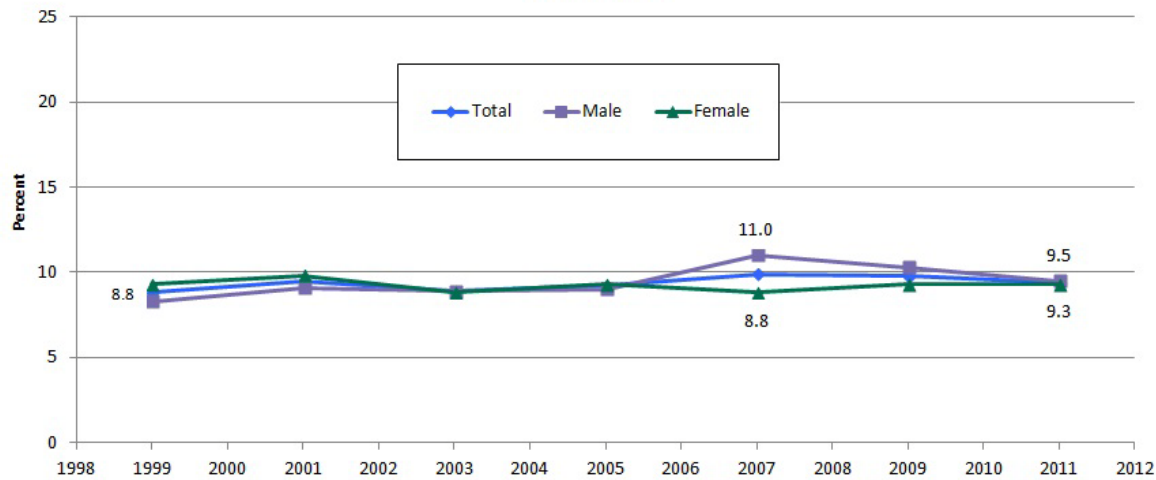
Number and Rate of Child Maltreatment Cases/Victims, 1990-2011



Sources: Rate per 1000 for 1990-1999 and number of victims for 1994, 1998, 1999, and 2000: U.S. Department of Health and Human Services, Administration on Children, Youth, and Families, Child Maltreatment 1999. Population estimates for 1999: Population Estimates Program, Population Division, U.S. Census Bureau. Internet release date: April 11, 2000; All other estimates for 1990-1999 except rate per 1000: Trends in the Well-Being of America's Children and Youth 2001. Table HC 2.10 U.S. Department of Health and Human Services, Office of the Assistant Secretary for Planning and Evaluation; Data for 2000: U.S. Department of Health and Human Services, Administration on Children, Youth and Families, Child Maltreatment 2000 (Washington, DC: U.S. Government Printing Office, 2002); Data for 2001: U.S. Department of Health and Human Services, Administration on Children, Youth and Families, Child Maltreatment 2001 (Washington, DC: U.S. Government Printing Office, 2003); Population estimates for 2000 and 2001 from original analysis by Child Trends of Bridged Race 2000 and 2001 Population Estimates for Calculating Vital Rates, National Center for Health Statistics, Centers for Disease Control and Prevention, 2003. <http://www.cdc.gov/nchs/about/major/dvs/popbridge/popbridge.htm>. Data for 2002-2010: U.S. Department of Health and Human Services, Administration on Children, Youth and Families, Child Maltreatment (multiple years) (Washington, DC: U.S. Government Printing Office. Available at: http://www.acf.hhs.gov/programs/cb/stats_research/index.htm#can

Figure 1

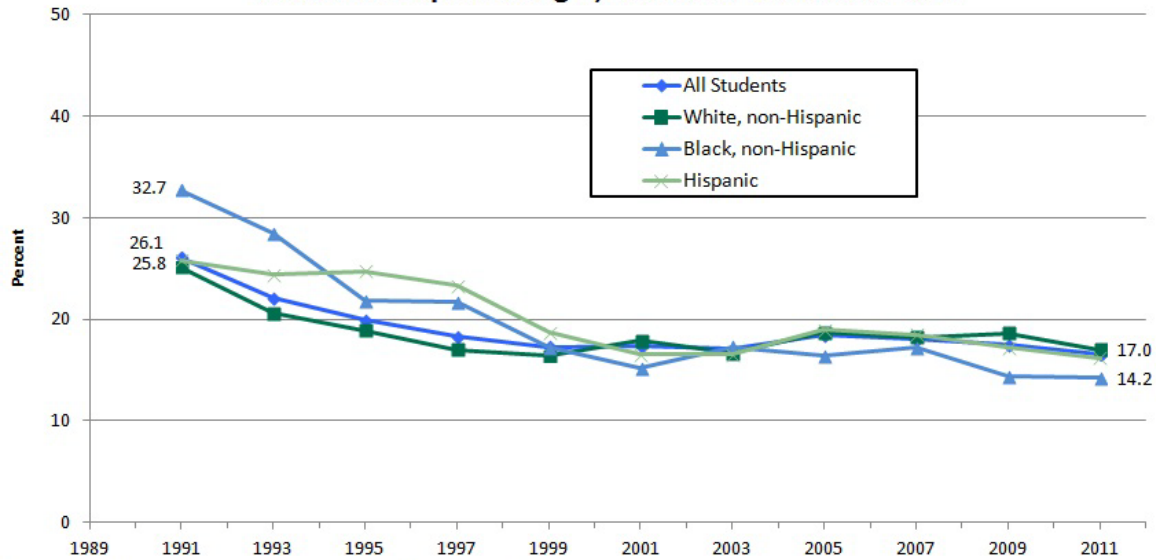
Percentage of High School Students in Grades 9 to 12 Who Report Having Been Victims of Dating Violence in the Past Year, by Gender, 1999-2011



Sources: Data for 2011: US Department of Health and Human Services. (June 8, 2012). Youth risk behavior surveillance: United States 2011. *MMWR Surveillance Summaries*, 61(4): Table 19. Available at: <http://www.cdc.gov/mmwr/pdf/ss/ss6104.pdf>. Data for 2009: US Department of Health and Human Services. (June 4, 2010). Youth risk behavior surveillance: United States 2009. *MMWR Surveillance Summaries*, 59(5): Table 12. Available at: <http://www.cdc.gov/mmwr/pdf/ss/ss5905.pdf>. Data for 2007: US Department of Health and Human Services. (June 6, 2008). Youth risk behavior surveillance: United States 2007. *MMWR Surveillance Summaries*, 57(4): Table 11. Available at: <http://www.cdc.gov/mmwr/pdf/ss/ss5704.pdf>. Data for 2005: US Department of Health and Human Services. (June 9, 2006). Youth risk behavior surveillance: United States 2005. *MMWR Surveillance Summaries*, 55(5): Table 10. Available at: <http://www.cdc.gov/mmwr/preview/mmwrhtml/ss5505a1.htm>. Data for 2003: US Department of Health and Human Services. (May 21, 2004). Youth risk behavior surveillance: United States 2003. *MMWR Surveillance Summaries*, 53(2): Table 10. Available at: <http://www.cdc.gov/mmwr/preview/mmwrhtml/ss5302a1.htm#tab4>. Data for 2001: US Department of Health and Human Services. (June 28, 2002). Youth risk behavior surveillance: United States 2001. *MMWR Surveillance Summaries*, 51(4): Table 8. Available at: <http://www.cdc.gov/mmwr/preview/mmwrhtml/ss5104a1.htm#tab4>. Data for 1999: US Department of Health and Human Services. (June 9, 2000). Youth risk behavior surveillance: United States 1999. *MMWR Surveillance Summaries*, 49(5): Table 8. Available at: <http://www.cdc.gov/mmwr/preview/mmwrhtml/ss4905a1.htm#tab4>.

Figure 1

Percentage of High School Students Who Report Carrying Weapons,¹ by Race and Hispanic Origin,² Selected Years 1991-2011



¹ Such as a gun, knife, or club on one or more occasion in the 30 days preceding the survey.

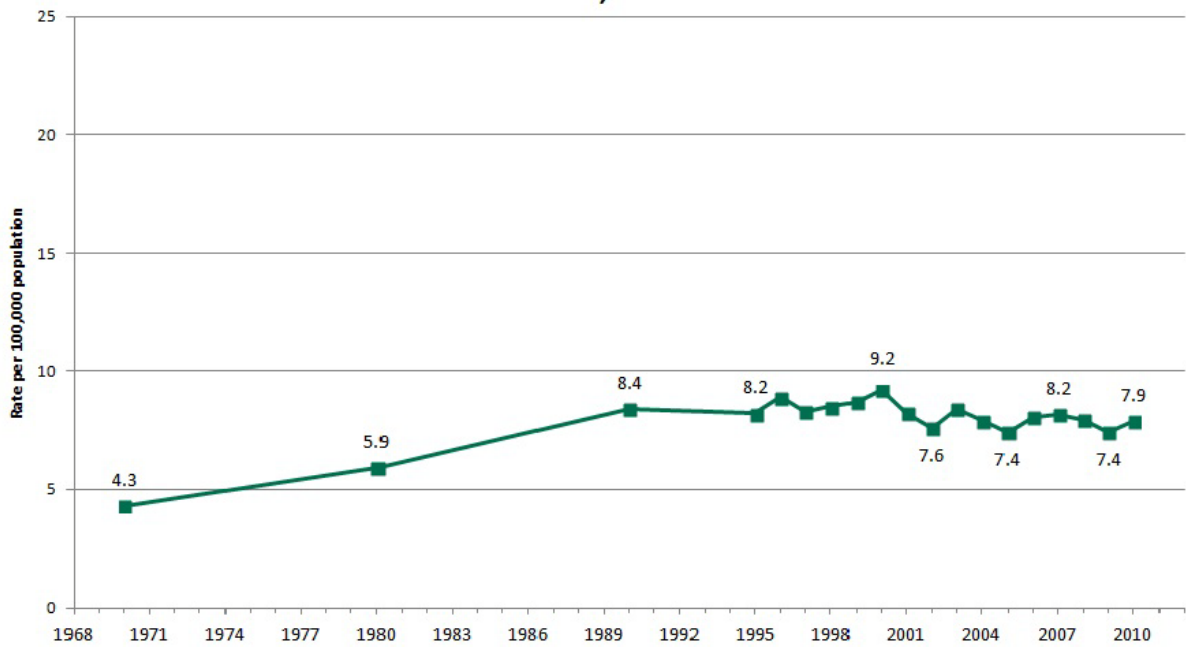
² Race/ethnicity estimates from 1999 and later are not directly comparable to earlier years due to federal changes in race definitions. In surveys conducted in 1999 and later, respondents were allowed to select more than one race when selecting their racial category. Estimates presented only include respondents who selected one category when choosing their race.

Sources: Data for 2011: US Department of Health and Human Services. (June 8, 2012). Youth risk behavior surveillance: United States 2011. *MMWR Surveillance Summaries*, 61(4): Table 8. Available at: <http://www.cdc.gov/mmwr/pdf/ss/ss6104.pdf> Data for 2009: US Department of Health and Human Services. (June 4, 2010). Youth risk behavior surveillance: United States 2009. *MMWR Surveillance Summaries*, 59(5): Table 8. Available at: <http://www.cdc.gov/mmwr/pdf/ss/ss5905.pdf> Data for 2007: US Department of Health and Human Services. (June 6, 2008). Youth risk behavior surveillance: United States 2007. *MMWR Surveillance Summaries*, 57(4): Table 7. Available at: <http://www.cdc.gov/mmwr/pdf/ss/ss5704.pdf> Data for 2005: US Department of Health and Human Services. (June 9, 2006). Youth risk behavior surveillance: United States 2005. *MMWR Surveillance Summaries*, 55(5): Table 6. Available at: <http://www.cdc.gov/mmwr/pdf/ss/ss5505.pdf> Data for 2003: US Department of Health and Human Services. (May 21, 2004). Youth risk behavior surveillance: United States 2003. *MMWR Surveillance Summaries*, 53(2): Table 6.

Child Trends
DATABANK

Figure 1

Infant Homicide Rates, Selected Years 1970-2010

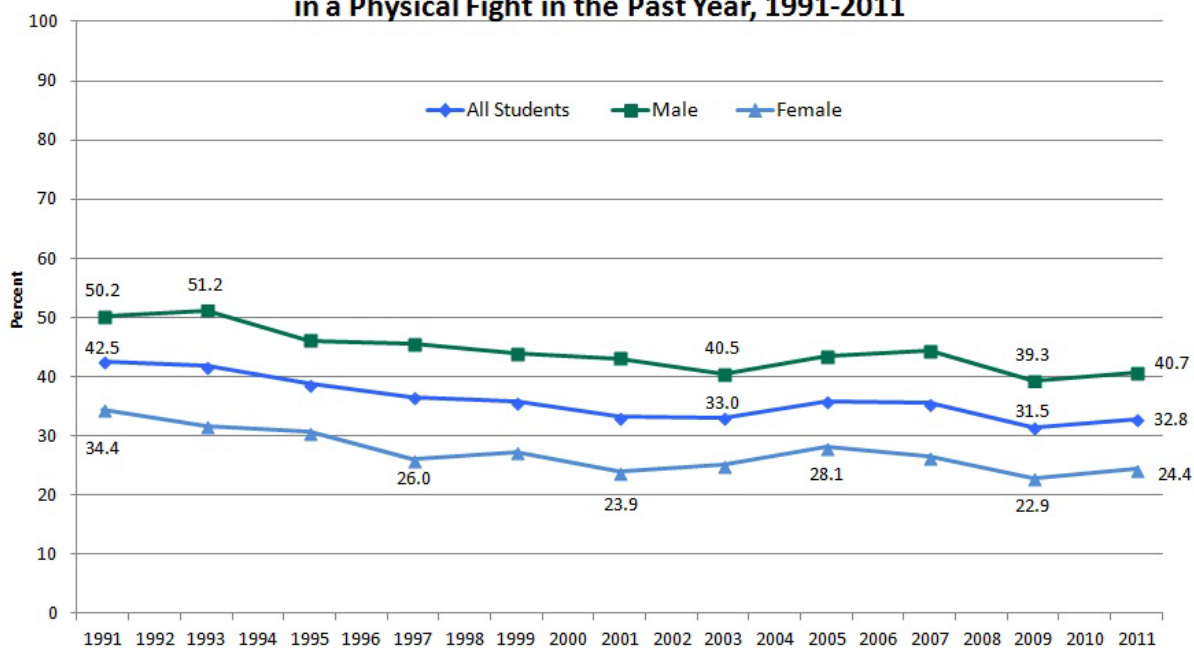


Note: Caution is strongly advised in comparing 2000, 2001 and 2002 rates with nearby years, since some of the difference will be due to slightly different estimation procedures.

Source: Data for Infants: 1970-1995, 1999 and revised 2000: National Center for Health Statistics. *Health United States 2003 with Chartbook on Trends in the Health of Americans*. Hyattsville, Maryland: 2003: Table 45. Data for 2001-2009: Centers for Disease Control and Prevention. Web-based Injury Statistics Query and Reporting System (WISQARS) [Online]. (2012)

Figure 1

Percent of Students in Grades 9 through 12 Who Reported They Were in a Physical Fight in the Past Year, 1991-2011



Source: Centers for Disease Control and Prevention (CDC). 1991-2011 High School Youth Risk Behavior Survey Data. Available at <http://apps.nccd.cdc.gov/youthonline>. Accessed on [8/19/2013].

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(2015, March).

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