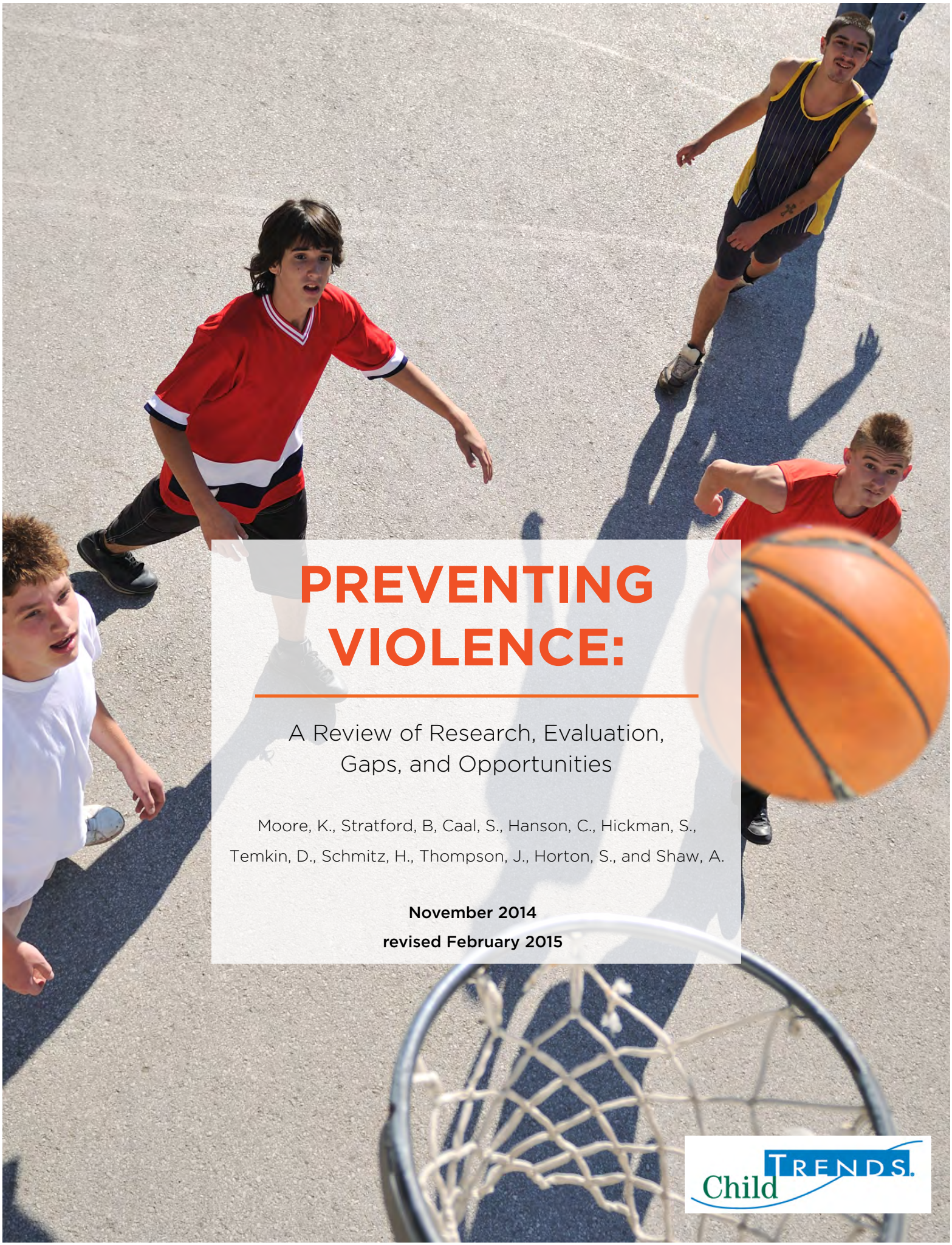

PREVENTING VIOLENCE:

A Review of Research, Evaluation, Gaps, and Opportunities

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November 2014

revised February 2015

Child TRENDS.

Acknowledgements

Child Trends appreciates the support to conduct this review received from Futures Without Violence, based on a grant from the Robert Wood Johnson Foundation.

Kristin Anderson Moore, PhD, served as project director for Child Trends; she wrote introductory sections and the executive summary and provided guidance and review for the project. Individual sections that covered the research on specific types of violence were written by researchers who focus on that particular issue.

The introduction and theoretical framework sections were written by Moore and by Carl Hanson, MS, MPP, who prepared the review of trends in violence.

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The sections on self-regulation, hostile attribution violence, bullying, school climate, and school performance were written by Joy Thompson, MA, Deborah Temkin, PhD, and Hannah Schmitz.

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The sections on collective efficacy, positive media, and gun availability were prepared by Carl Hanson

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All researchers on the project contributed to the sections discussing the health, education, justice, and community sectors.

Executive Summary

Rates of violence have declined substantially in the United States across all types of violence. Nevertheless, rates of violence and the numbers of children and youth affected by violence remain high compared with other countries. Moreover, data indicate great variation across states and communities. The fact that there is so much variation across states and countries suggests that there is substantial opportunity to reduce high rates of violence.

Violence comes, of course, in many forms. In this report, we use the following definition of violence: "The intentional use of physical force or power, threatened or actual, against oneself, another person, or against a group or community that either results in or has a high likelihood of resulting in injury, death, psychological harm, maldevelopment, or deprivation."

While Child Trends takes the lens of the child in this review, violence is often intergenerational; hence adults are frequently critical actors. Our purview includes varied forms of violence, including child maltreatment, crime/delinquency, gang violence, intimate partner violence, suicide, self-harm, and general physical aggression.

Our review identifies a number of critical themes.

- Violence appears in many forms, but there are common determinants across types of violence; these are the risk and protective factors that are found across types of violence. A child or family that experiences multiple risk factors and few protective factors faces a particularly high risk of experiencing violence, either as a victim, as a perpetrator, or both.
- While the U.S. has high rates of violence compared with other countries, many programs and approaches have been identified that could reduce violence, if scaled up with quality.
- Prevention of violence is preferable to treatment, but emerging evidence from neuroscientists indicates significant plasticity of the human brain, including individuals experiencing trauma, supporting the perspective that treatment can make a difference.
- Social and economic disparities are strongly correlated with violence and are malleable; however, we have not focused on these because other interventions seem more realistic.
- Interventions are available at the level of individuals, the family, schools, and communities.
    - For individuals, problems with self-regulation, sleep, hostile attributions about other people's intentions, and abuse of substances are risk factors. While mental health problems are not generally a cause of violence, the combination of substance use and mental health issues does elevate the risk of violence. Individuals with mental health issues and disabilities are more likely to be victims of violence.
    - Family factors represent an important determinant of violence. Potential interventions include the prevention of unintended pregnancy, programs to prevent and treat intimate partner violence, and parenting education.
    - Schools are another important locus for intervention, and efforts to improve school climate include a focus on improving engagement, safety, and environment by developing social and emotional skills, reduction of bullying and other physical and emotional safety issues, and creating consistent and fair disciplinary policies.
- High levels of violence across the U.S. compared with other countries suggest that there are beliefs, values, and policies underlying our national culture that, if better understood and thoughtfully discussed, could reduce violence.

- Many of the interventions that might be pursued to reduce violence are useful in their own right (e.g., reducing substance abuse); the fact that these interventions can also reduce violence should give them added importance and urgency.

Identifying the Determinants of Violence

This report summarizes a review of research and evaluation studies, as well as promising and proven interventions, to identify programs, policies, and practices that can contribute to reducing high levels of violence in the United States. Reducing violence is not a topic of controversy – virtually everyone would like to see reductions in injury, harm, and mortality due to violence. The question is how violence can be reduced.

We have drawn on available research to identify a broad range of factors that predict a similarly broad range of types of violence. These are depicted in the chart below, which arrays varied types of violence across the top and identifies potential causes or determinants of violence along the left side. Each cell summarizes our sense of the strength of the research evidence linking each determinant of violence with each type of violence. A bold **X** indicates strong evidence of an association, while a smaller X indicates more moderate evidence, and a tiny x indicates weak evidence. Weak evidence can reflect a lack of research or a small association, or it may reflect an uneven research literature, such that some determinants have been heavily researched while others have not been as widely explored. In addition, some factors have been explored in rigorous studies that control for confounding influences, while others are based on weaker research methods. Alternatively, it may be that some predictors have effects that are more universal, while others do not. 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 this question.

Our review identifies a number of common predictors or determinants of violence. These are factors that are consistently found 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. These determinants represent many of the forms of trauma experienced by children and youth incorporated as "adverse childhood experiences" or ACEs, but the set of determinants goes beyond these factors.

The critical take-away from this chart is *that many of the predictors of violence affect many or even most of the types of violence*. Child maltreatment, for example, strongly predicts every type of violence; that is, every cell is filled with an X. This suggests that reducing child abuse and addressing related trauma would have a number of positive effects on varied types of violence and suggests 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 and dysfunctional parenting, low self-control, and a lack of school connectedness. Similarly, domestic violence/ intimate partner violence (IPV) predicts every type of violence. Other predictors appear to be related to just some types of violence, for example, attribution of hostile intent to others, dysregulated sleep, neighborhood or collective efficacy, and unintended pregnancy, which has been found to be associated with about half of the varied types of violence.

Figure A: Determinants of Youth Violence [Relationship: **X**=Strong, X=Medium, x=Small, Blank=Not Found]

		Source: Child Trends	Violent Outcomes								
			Child Maltreatment	Bullying Perpetration	Delinquency Crime	Gang Violence	Intimate Partner Violence	Sexual Violence	Suicide	Self-harm	General Aggression
Correlates/Causes	Individual	Child/Adolescent Mental Health	x	x	x	x	x	x	X	X	x
		Child/Adolescent Substance Use		x	**X**		X	x	**X**	X	X
		Self Control		X	X	x	x		x	x	X
		Hostile Attribution Bias			x	x	x				X
		Dysregulated Sleep							X	X	X
	Family	Child Maltreatment	**X**	X	**X**	X	**X**	X	X	X	**X**
		Harsh Parenting	X	x	**X**	X	x		x		**X**
		Parent Mental Health	X		X	x	x		x	X	x
		Parent Drug Use	X		**X**	x	x		x		X
		Domestic Violence/IPV	X	X	X	X	**X**	**X**	X	x	X
		Unintended Pregnancy	X		X	x	X	X			
		Sexual Violence	x	x			**X**	**X**	x	x	
	School/Vocational	Bullying Victimization		x	x				x	x	x
		Bullying Perpetration		**X**	X	x	X		x		X
		Cyber Violence		x					x	X	
		Anti-social Peers		x	X	X	x	x			
		School Connectedness		x	X	X	x	x	X	X	X
		School Performance			x		x		x	x	
		School Climate		x	x	x	x		x	x	X
	Community	Collective Efficacy	x	x	x	X	x	x	X	x	X
		Media							X	x	x
		Gun Availability	x		X	**X**	X	x	**X**		

Some misperceptions were also identified regarding the causes of violence. For example, despite the media emphasis on mental health issues as a major cause of violence, research indicates that mental health problems only modestly increase the probability of violence, though whether certain mental health conditions create an elevated risk is a topic for additional research. 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. Individuals with mental health issues are, though, more likely to be victims of violence. Moreover, parent mental health can represent a risk factor for children, as well as parents being unable to build positive relationships with their children and provide consistent positive parenting.

Focusing on approaches to reduce these common determinants of violence represents an important direction for prevention and treatment. Accordingly, in the course of our review, we examined in depth a number of factors that, if addressed, could reduce *multiple* types of violence.

In addition, to inform strategies to address these common determinants of violence, 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, though 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 cultural beliefs or values that underlie the high rates of violence found in the U.S.

Opportunities to Reduce Violence

The review identified numerous opportunities for reducing violence, including some overlooked opportunities. For example, a lack of school connectedness and, to a lesser extent, poor school performance, are both linked to greater violence. Clearly there are many reasons to foster academic achievement and connectedness. Preventing violence represents an additional and very important reason.

Family planning programs represent 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 correlate, as the child grows up, of an increased risk for delinquency, crime, and gang violence. Again, while 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 in the discussion. Risk factors, such as poor self-regulation, provide malleable points of intervention that could have a number of positive outcomes, including a reduction in violence.

Recent advances in technology make it easier to screen youth for violence and associated risk factors (e.g., computerized screeners in waiting rooms), and technology is increasing the reach of some proven programs. (For example, some home visiting programs send text messages, and some parenting programs deliver some content via videos that can be accessed from any computer with an internet connection.) Widespread use of texting and smart phone applications can potentially increase the reach of already-proven programs to a larger 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.

Electronic technologies are also being used to help train professionals in the field to increase their skills in an interactive way with a more flexible schedule. Training can be done when individuals have time, rather than having to attend a webinar or conference. Virtual trainings that include the use of avatars to help teachers and health professionals hone important skills related to violence prevention can also help to broadly disseminate evidence-based practices.

Prevention interventions can also take advantage of emerging computer and communication technologies. Finally, there are video games that teach and reinforce positive skills such as problem solving and self-regulation in a medium that is embraced by youth.

Positive media represents another approach that seems to fly under the radar screen. Characters that provide role models for 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.

Exploring the Role of Culture and Social Factors

Unfortunately, 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 like 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.

It is important to recognize that 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 in this paper because other routes to reducing violence appear to be more pragmatic. Despite this, it is critical to note that these disparities underlie and magnify the importance of other risk factors. Accordingly, achieving reductions in social and economic disadvantages needs to be on any list of strategies to reduce violence.

Parenting behaviors have proven difficult to change; but harsh and dysfunctional parenting 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.

The Role of the Education, Health, Justice, and Community Sectors

The Education Sector. A focus on academic achievement has expanded to encompass the importance of non-cognitive or socioemotional skills to enhance school success and also to support student development. Initiatives to improve school climate and build student connectedness include efforts to reduce bullying, develop student self-regulation, and reduce the frequency of attributing hostile intentions to the behavior of others. Like many of the interventions to reduce violence, it is likely that these interventions will improve school outcomes, such as attendance and academic performance, as well as the predictors of violence.

The Health Sector. Health insurance can play a valuable role in addressing substance use, mental health issues, and treatment of injury. The availability of health insurance coverage for screening is

less consistent. Recognizing that prevention is cheaper in every sense of the word than treatment, ways to support preventive approaches merit consideration. The health system also provides screenings and services for parents and can therefore address varied determinants of violence, including parental depression, harsh discipline and dysfunctional parenting, as well as domestic violence and intimate partner violence. In addition, as unintended pregnancy is another determinant of violence, the health sector can help to address high rates of unintended pregnancy.

The Justice Sector. Developing better approaches to addressing child welfare and juvenile justice represents a critical challenge. Again, stronger prevention and treatment programs and policies are needed. For example, treatment of behavior problems rather than incarceration represents one valuable direction for many youth. Similarly, alternate approaches to incarceration for parents convicted of non-violent offenses is another strategy to consider, if families can be strengthened and supported rather than further disrupted.

Community Sector. Media campaigns have been used to good effect to address many issues, such as smoking and sudden infant death syndrome, and thus represent an approach worth considering. More direct cross-sector approaches to building neighborhood and community collective efficacy have been explored; they are difficult to evaluate but, importantly, they recognize that high rates of violence are concentrated in particular communities and thus that this sector is also relevant to reducing violence. Initiatives include Defending Childhood, the National Forum on Youth Violence Prevention, My Brother's Keeper, and Community-Based Violence Prevention. Another strategy being implemented in several sites, such as Safe and Sound, focuses on treatment with evidence-based approaches to reduce costly approaches such as foster care and detention; the savings are then invested in evidence-based prevention programs.

Evidence-Based Programs for Reducing Violence

Our review identified a number of programs that have been rigorously evaluated and found to have significant impacts on reducing varied forms of violence. Examples include:

- Communities that Care
- LifeSkills Training
- Positive Action
- Good Behavior Game and PAX Good Behavior Game
- Multisystemic Therapy
- Al's Pals
- Leadership Education Through Athletic Development (LEAD)
- Promoting Alternative Thinking Strategies (PATHS)
- Promoting School-community-university Partnerships to Enhance Resilience (PROSPER)
- Second Step
- Steps to Respect
- 4 Rs
- Child-Parent Psychotherapy Program
- Positive Parenting Program (Triple P)
- Nurse-Family Partnership (NFP)
- Gang Resistance Education and Training)
- Cognitive Behavior Therapy

These and other effective programs focus on varied age groups. In Figure B, 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 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.

However, 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 impacts of even these fairly well-known effective programs.

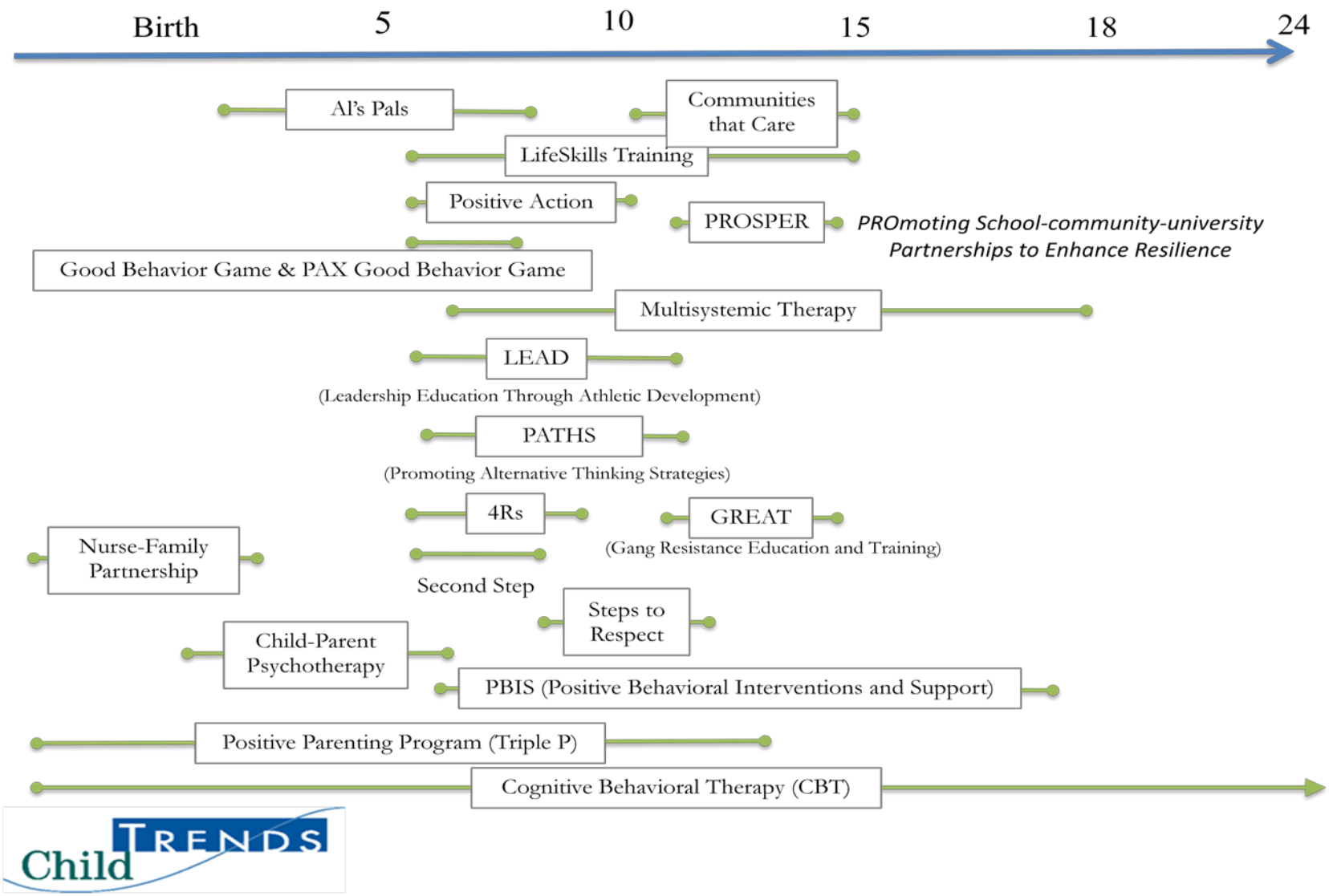
Of course, causality is often complex and many patterns of behavior are reciprocal. For example, youth with low self-esteem, depression, and/or anxiety may attract bullying victimization because they often do not have the skills to resist such harassment. Bullying victimization subsequently lowers their already diminished sense of self, inviting additional victimization, creating a vicious cycle. 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.

More hopefully, we find that many programs have only been evaluated from a narrow perspective. That is, many programs have only been evaluated 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 Training program was developed to address substance use but was subsequently found to also affect delinquency. While we do not 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.

Most of all, it is critical to focus on prevention. Once a violent act has occurred -- be it bullying, child abuse, suicide, or murder -- the consequences cannot be undone. Advocates often say that we know what to do; we just need to do it. Researchers, however, often say that more research is needed before action is taken. In this case, while further research and evaluation would be beneficial, enough is known to warrant action. Understanding how to build the private and public will to support the implementation of evidence-based programs, practices, and policies may represent the most urgent research need.

Figure B: Proven Programs by Target Age

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



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I. Introduction

Rates of violence have declined substantially across all forms of violence in the United States. However, rates of violence and the numbers of children and youth affected by violence remain high. Moreover, data indicate great variation across states and much lower levels of violence in other developed countries, which indicates that there is substantial room for improvement.

The goal of this review is to examine the research on the determinants of varied types of violence. These include child maltreatment, delinquency and crime, intimate partner violence, bullying, suicide, self-harm, and general physical violence. We seek to identify common factors that increase or lower the risk of violence across different forms of violence. That is, we seek to identify risk and protective factors that are related to violence. We then seek to identify programs and practices and policies that can address these determinants. Many of these potential interventions have been evaluated and would benefit from scaling up to serve more children and youth, families, schools, healthy systems, juvenile justice systems, and communities in general. Other potential interventions are promising but have not been (or cannot be, either for practical or ethical reasons) rigorously evaluated. Programs, practices, and policies that are particularly promising for addressing common determinants of violence are highlighted; they would benefit from testing and evaluation.

Violence Trends in the United States

Overall, violence in the U.S. has been declining since the mid-to late-1990s, although rates for some kinds of violence have remained flat or increased somewhat recently. See Appendix A for graphs showing trends for various kinds of violence, along with the sources for the data in the following discussion (unless otherwise referenced).

By 2011, the rate of *violent victimization* (rape, robbery, aggravated and simple assaults) for adolescents ages 12 to 20 had fallen by nearly three-quarters from the mid 1990s, from a high of 175 victimizations per 1,000 population, to 47.5. There were major reductions in most types of violent crime, including simple assault, aggravated assault, and robbery, during this period. From 2011 to 2012 there was, however, an increase in overall violent victimization, mostly due to an increase in simple assaults (Truman, Langton, & Planty, 2013).

Homicide victimization rates for teens and young adults increased rapidly in the late 1980s and early 1990s, peaking in 1993 at 12 homicides per 100,000 for teens and 24.8 homicides per 100,000 for young adults (NCJ, 2011). The rate for children under age 14 was the lowest of all age groups, peaking in 1993 at a high of 2.2 homicides per 100,000. By 2004, this rate had declined to the lowest level recorded—1.4 homicides per 100,000—and remained stable through 2008 at 1.5 homicides per 100,000. The rate for teens (14 to 17 years old) increased almost 150% from 4.9 homicides per 100,000 in 1985 to 12.0 in 1993. Since 1993, the rate for teens has declined to 5.1 homicides per 100,000. In 2008, young adults (18 to 24 years old) experienced the highest homicide victimization rate (13.4 homicides per 100,000).

The *homicide rate* for teens ages 15 to 19 declined steeply during the later 1990s, from a high of 20.7 per 100,000 in 1993, and leveled out at around 9 between 2000 and 2004. Although the rate increased to 10.7 in 2006, it dropped to 8.3 in 2010.

The teen *suicide rate* increased from 5.9 to 11.1 per 100,000 population between 1970 and 1994,before declining to 8.0 per 100,000 in 2003. Since then, the rate has been relatively stable,

fluctuating between seven and eight per 100,000. In 2010, the rate of suicide was 7.5 per 100,000. The proportion of students in grades 9 through 12 who reported being victims of dating violence during the previous 12 months was stable between 1999 and 2011, staying between 9 and 10 percent.

Nationally representative statistics for *bullying* at school have been generally steady since 2005. In 2011, 28 percent of students, ages 12 through 18, reported being bullied during school, which is similar to the 28 percent reported in 2009 and 2005, and 32 percent in 2007 (Robers et al., 2013). Due to changes in the questionnaire, comparable earlier data are not available. Results of a separate nationally representative survey of students in grades 9 through 12 indicate a consistent rate of 20% on the 2009, 2011, and 2013 surveys (Kann et al., 2014). According to children ages 12-18 who reported being bullied in the 2010-2011 school year, 79 percent of bullying occurred within the school, 23 percent on school grounds, eight percent on the school bus, and four percent somewhere else (Robers et al., 2013). For perpetration, 13% of children ages 6-17 bullied or were cruel to others at least sometimes, and 2% reported usually or always bullying others (CAHMI, 2012).

Cyberbullying was added to the two nationally representative surveys in 2007 and 2009. Rates for students ages 12-18 have seen a gradual increase from four percent in 2007, to six percent in 2009, and to nine percent in 2011 (Robers et al., 2013). Fifteen percent of students in grades 9 to 12 reported being cyberbullied in 2011 which is similar to the 16% reported in 2009.

The total proportion of students ages 12 to 18 who reported being targets of *hate-related words* at school during the previous six months declined between 1999 and 2011, from 13 to nine percent. A large part of that decline can be attributed to a reduction in the percentage of students who reported hate-related words referring to gender, which fell by half, from 2.8 to 1.4 percent. Students were most likely to report hate-related words referring to their race (five percent in 2011). Three percent of students reported being targeted on the basis of their ethnicity, and around one percent of students reported being targeted for their religion, disability, gender or sexual orientation.

Maltreatment has also declined. A sharp drop in both the rate and number of maltreated children between 2006 and 2007 has been followed by continued declines. In 2011, there were approximately 681,000 maltreated children in the United States, a rate of 9.1 per thousand children in the U.S. population. These data reflect states' definitions of what constitutes maltreatment; they vary across states and may change over time.

The proportion of students in grades 9 through 12 who report being victims of *dating violence* during the previous 12 months was stable between 1999 and 2011, staying between nine and ten percent.

Gun violence among youths increased dramatically in the 1980s and early 1990s, and then declined, along with the overall decline in violent crime, but remains high compared with historical rates both in the U.S. and in other developed nations. In 1998, the firearm death rate for youth was still 34% higher than it was in 1968 and 3,792 children and youth died from firearm injuries in homicides, suicides, or unintentional shootings. Twelve percent of all firearm deaths in the United States occurred among children and youth under age 20 (Garbarino, Bradshaw, & Vorrasi, 2002).

The proportion of students reporting that they *carried a weapon* in the past 30 days decreased from 26 percent in 1991 to 17 percent in 1999. Since then, the percentage has not strayed far from the current figure of 17 percent (as of 2011).

The share of students in grades 9 through12 who had been in at least one *physical fight* in the past year declined from 43 percent in 1991 to 33 percent in 2003. Since then it has remained steady, and was at 33 percent in 2011.

Between 1970 and 2000, the official *infant homicide* rate more than doubled, from 4.3 to 9.2 infant deaths per 100,000 children under age one. Between 2000 and 2002, the rate declined to 7.6 per 100,000, and has since fluctuated between 7.4 and 8.4 per 100,000. The rate was 7.9 per 100,000 in 2010.

From 1995-2005, the rate of *sexual violence against women* declined 64 percent and then stabilized from 2005-2010. More than half of sexual violence against women from 1995-2010 was completed rape or sexual assault. In 1995, the rate of sexual violence against women was five victimizations among females 12 and older and in 2010 it was 1.8 per 1,000 females. The rate of rape or sexual assault among women ages 12 and older was 5 per 1,000 women in 1995 and 2.1 per 1,000 women in 2010. Between 2005-2010 females at greatest risk for experiencing rape or sexual assault were those: under age 34, in low income households, and living in rural areas (Planty, 2013).

Between 1994 and 2010 the rate of *intimate partner violence* declined from 9.8 victimizations per 1,000 individuals ages 12 and older to 3.6 victimizations per 1,000 for both males in females. This 64 percent decline is reflective of a dramatic decline between 1994 and 2000 and a slower decline between 2001 and 2010. Between 1994 and 2010 about 80 percent of victims of intimate partner violence were women. Women who lived alone with children experienced intimate partner violence at a rate ten times that of their married counterparts and six times that of their childless counterparts (Catalano, 2012).

Variations in U.S. Violence by Regions and Subgroups

Within the United States, rates for violent crime are higher in urban areas than in suburban areas, which in turn have higher rates than rural areas. The Midwest and West regions have higher rates than the Northeast and South (Truman et al., 2013). FBI data shows that there is wide variation in violent crime rates between states. For example, the rate per 100,000 population in Vermont is 142.6, 408.6 in Texas, 487.1 in Florida, 295.6 in Washington, and 263.9 in Iowa (USDOJ, 2014).

Almost everywhere, youth homicide rates are substantially lower among females than among males, suggesting that being a male is a strong demographic risk factor (Krug et al., 2002). As with fatal youth violence, the majority of victims of nonfatal violence treated in hospitals are males (20–26), although the ratio of male to female cases is somewhat lower than for fatalities.

Youth (ages 0 to 19) in the most rural U.S. counties are as likely to die from a gunshot as those living in the most urban counties. Rural children die of more gun suicides and unintentional shooting deaths. Urban children die more often of gun homicides (Nance, 2010). Adolescents, boys, minority youth, and those residing outside the U.S. Northeast, are particularly at risk for firearm death. The problem is most serious among black teenage males (Garbarino et al., 2002). The likelihood of being killed by a gun increases with age, with 15 percent of 1-4 year old deaths due to guns, but 85 percent of 15-19 year olds. In 1998, 7 percent of youth gun deaths were the result of accidents, most often in the home.

"Two reports released this year by the Children's Defense Fund – Portrait of Inequality 2012: Black Children in America and Portrait of Inequality 2012: Hispanic Children in America – describe the gross disproportion of challenges and barriers to success that African American and Hispanic children must overcome beginning from birth. African American children are more than three times as likely to be poor than white children and Hispanic children are nearly the same. The number of gun related deaths of black children and teens increased by 30 percent between 1979 and 2009, while it decreased by 44 percent for white children and teens during the same time. One in five children and teens killed by firearms in 2009 was Hispanic (Camden, 2014).

More murders of women, the primary victims of domestic and dating violence, are committed using guns than by all other types of weapons combined. Guns are also a factor in child abuse; one survey found a physical abuse rate of 49 per 1000 children when threatening with a knife or gun, hitting with an object other than on the buttocks, kicking, and beating were included as forms of abuse (Krug et al., 2002).

Children are more likely to be exposed to violence and crime than are adults (Finkelhor et al., 2009). In 2011, nearly 60 percent of children (ages 17 and younger) were exposed to violence—assaults, sexual victimization, child maltreatment by an adult, and witnessed and indirect victimization—within the past year (Finkelhor et al., 2013). In 2011, nearly one-half (41 percent) of children were physically assaulted within the previous year, and more than half (55 percent) had been assaulted during their lifetime. Fourteen percent suffered some form of maltreatment in the past year (26 percent during their lifetime); six percent reported being sexually victimized in the past year (10 percent over their lifetime). In 2011, 22 percent of children had witnessed violence in their homes, schools, and communities in the past year, and 39 percent had witnessed violence against another person during their lifetimes. One in twelve (eight percent) saw one family member assault another in the past year, while one in five (21 percent) had witnessed this scenario over their lifetime (Finkelhor et al., 2009).

Violence in the U.S. Compared with Other Nations

Despite declines in the rates of many forms of violence, overall rates of violence and the numbers of children and youth affected by violence in the U.S. remain high; other developed countries have much lower levels of violence.

Intentional *homicide* caused the deaths of about 437,000 persons around the world in 2012, with 36 per cent in the Americas, 31 per cent in Africa, 28 per cent in Asia, while 5 percent in Europe, and 0.3 percent in Oceania (UNODC, 2014). Worldwide in 2012, 36,000 children under the age of 15 were the victims of homicide, representing 8 per cent of all homicide victims. Together with the share of victims in the 15-29 age group (43 per cent), more than half of all global homicide victims were under 30 years of age.

The overall homicide rate per 100,000 population in the U.S. was between 5.5 and 5.8 in 2000-2007, began to dip in 2008, and remained at 4.7 in 2010-2012 (UNODC, 2014). In comparison, over the same period, the rate in France declined from 1.8 to 1.0, the rate in Germany fell from 1.2 to 0.8, and the rate in Canada held steady at around 1.6.

The U.S. homicide rate for 10 to 29 year olds in 1998 was 11.0 per 100,000, which was far higher than rates in France (0.6), Germany (0.8), the UK (0.9), Japan (0.4), and Canada (1.7). Most countries with youth homicide rates above 10.0 are either developing countries or those experiencing rapid social and economic changes, e.g. El Salvador (50.2) and Colombia (84.4) (Krug et al., 2002).

The overall U.S. firearm homicide rate is 20 times higher than the combined rates of 22 countries that are our peers in wealth and population, and American children die by guns 11 times as often as children in other high-income countries (Richardson & Hemenway, 2010). The firearm homicide rate in the U.S. for children under age 15 was 16 times that of the average for other developed countries, the firearm suicide rate was 11 times higher, and the unintentional firearm death rate was 9 times higher. Youth death rates for ages 15 to 19 in the U.S. also are high relative to other developed countries. The firearm death rate for ages 15 to 17 in the U.S. is roughly 11 times the rate in Israel, and the rate for ages 18 to 19 is 3 times greater than in Israel. The U.S. firearm death rates

for ages 15 to 17 and ages 18 to 19 are 4 to 8 times greater than the rates in New Zealand, Canada, and Australia. In these countries, most teenage firearm deaths are suicides, while in the U.S. the majority of youth firearm deaths are homicides (Garbarino et al., 2002). The proportion of homicides involving firearms ranges from 19% in western and central Europe to 77% in Central America; the rate in the U.S. is 70 percent (WHO, 2010).

Studies of non-fatal violence reveal that globally for every youth homicide there are around 20–40 victims of non-fatal youth violence receiving hospital treatment. The rates of non-fatal violent injuries tend to increase dramatically during mid-adolescence and young adulthood (Krug et al., 2002).

Why is there more violence in the U.S. than in other developed countries?

Although there is no scholarly agreement on the causes of the relatively greater rates of violence in the United States than in other developed countries, both the historical context and international comparative data provide some hints.

Pinker, an experimental psychologist at Harvard University, suggests that the higher rates of violence in the United States are due in part to the late arrival of government entities in large sections of the country (Venkatamaran, 2011). In some areas, a state of anarchy was in effect until the 20th century and citizens could not count on the government to protect them; they had to protect themselves, often with firearms. When effective governments were established, citizens were reluctant to relinquish their established habits of self-protection. Pinker further suggests that because the U.S. national government was a democracy, the people were able to protect their right to bear arms. In contrast, in many European countries, governments disarmed the people before democratization.

Charlotta Mellander of the Martin Prosperity Institute found a number of factors correlated with increased violence in countries around the world (Florida, 2014). These include:

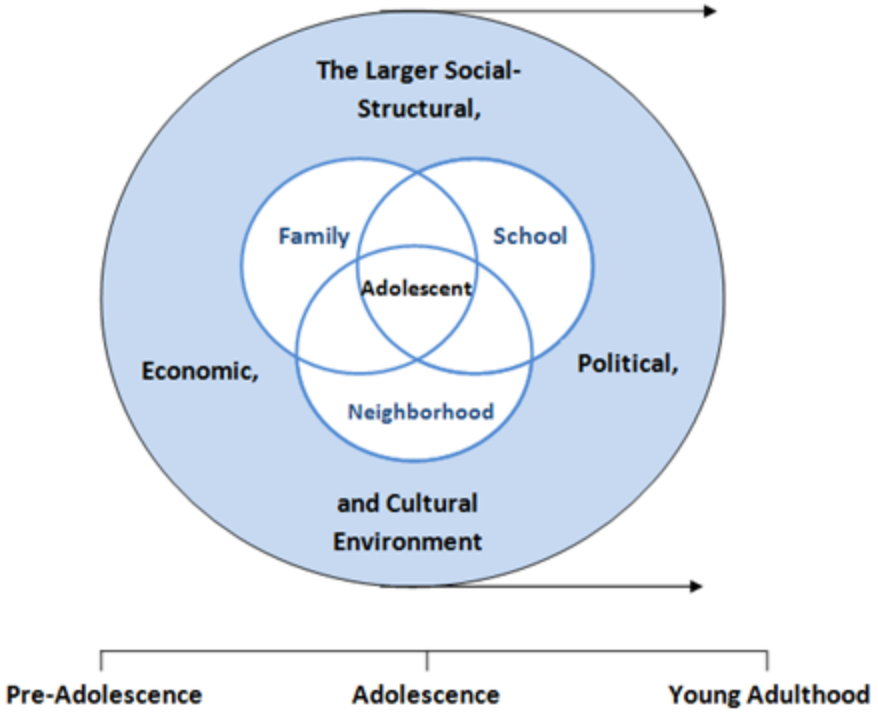
- A negative association between intentional homicide and the U.N. Human Development Index (-0.31);
- a negative association between gun violence and the share of workers in knowledge, professional and creative class occupations (-0.27).;
- an association of gun murder with perceptions of public institutions' corruption (-0.31);
- a close correlation (0.48) between gun murder and socioeconomic inequality as measured by the Gini index; and
- a close association between the UN's Gender Inequality Index and gun violence (0.43).

Theoretical Framework

There are many competing theories about the causes of violence; one researcher identified thirteen major theoretical approaches, each with their own multiple sub-theories (Wortley, 2008).

To help structure this literature review of the causes of violence, we have drawn on the social ecological model. We also employ a framework that identifies risk and protective factors by developmental stage. Our approach is similar to the public health approach used by the U.S. Centers for Disease Control (CDC) and by the World Health Organization (WHO).

Figure 1 – The Social Ecological Model



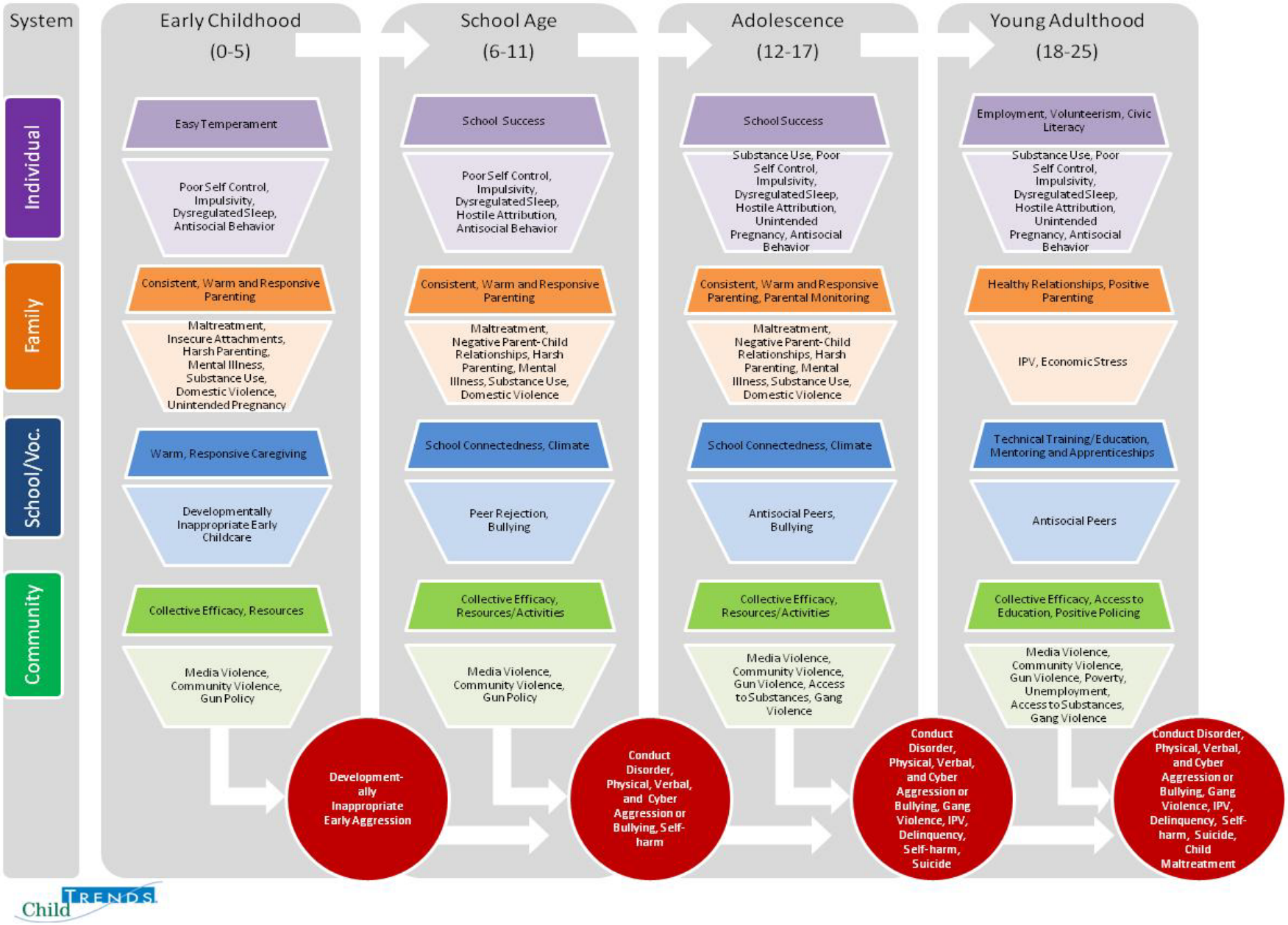
Souece: Jessor, R. (1993). "Successful adolescent development among youth in high-risk settings," *American Psychologist, 48*.

The modified social ecological model we use (see Figure 1 above) has four levels: Individual, Family, School/Vocational, and Community, which includes the greater society, as well as more local structures. While similar to the model used by the CDC and WHO, our approach emphasizes the importance of the family for children and youth.

Risk factors, also known as pathways or mediators, are factors that have been correlated with a higher risk for either being the victim of or perpetrating violence. Many risk factors are included in typologies such as "adverse childhood experiences" or ACEs, but other factors are also included here. In addition, the importance of protective factors is highlighted. Protective factors, also referred to as buffering factors, are factors that either act on their own to reduce the risk of being a victim of or perpetrating violence, or act to lessen the effect of one or more particular risk factors. These approaches have been used in combination before, e.g., Walker's (2010) Pathways to Violence, and we continue along that path.

Figure 2, Risk and Protective Factors by System and Age, summarizes our findings about the risk factors at each developmental stage and how they accumulate to heighten risk at the next stage. It provides an overview of how the ecological perspective underlies this review, and it illustrates the types of factors associated with violence by children or youth of varied ages. The developmental stages that we use are Early Childhood (0-5), School Age (6-11), Adolescence (12-17), and Young Adulthood (18-24).

Figure 2 – Risk and Protective Factors by System and Age



Child Trends

The four ecological domains or systems that organize this review are depicted along the side of the figure. In each hexagon, we summarize the protective and risk factors that are associated with violence by children or youth of that age within the relevant domain – the individual, family, school, or community.

For example, for preschool children ages 0-5, protective factors include consistent, warm and responsive parenting. Risk factors, on the other hand, include child maltreatment, lack of attachment, harsh parenting, domestic violence, parent mental illness, substance use, and unintended pregnancy. An important take-away from this figure is that *violence is predicted both by the presence of risk factors and also by the absence of protective factors*. The combination of a risk factor such as domestic violence with the lack of warm and responsive parenting will increase the probability of violence. Similarly, the presence of multiple risk factors can greatly increase the likelihood of violence. On the other hand, several protective factors can buffer against the influence of a risk factor.

Another take-away from this figure is that *there are common factors across the developmental stages of childhood*. For example, maltreatment and negative peers increase the risk of violence behaviors across several stages of childhood.

Figure 3, Determinants of Youth Violence, summarizes our findings about the correlations between various risk factors and kinds of violence. Our detailed review examines these kinds of factors in considerably greater detail.

As we review the research about the factors that influence the likelihood of violence by children or youth, we also describe interventions that have been found effective (or not) in addressing violence in that arena. We prioritize programs and practices that have been found effective in rigorous random assignment studies; but we also share interventions that have been found, or that appear to be, promising.

Factors that Increase the Likelihood of Violence

Violence takes many forms and numerous factors have been identified that are associated with each type of violence. Figure 3 - Determinants of Youth Violence identifies the types of violence considered in this review along the top of the table, and highlights the correlates along the side of the table. The correlates are organized according to the ecological model: individual, family, school/vocational settings, and community.

The cells in Figure 3 summarize our sense of the research evidence about the association between each cause and each type of violence. Associations where the research indicates a strong correlation are identified with a large **X**; a moderate correlation is identified with a somewhat smaller X; and a small correlation is identified with a small x. It is important to note that the magnitude of these correlations inevitably reflects a judgment call; it is not possible to empirically assess the evidence base. Also, a small correlation could reflect several factors, including a lack of relevant research, research that failed to identify an association, or a truly small association. Blank cells reflect a complete lack of association, which, again, may reflect a lack of research or the absence of an association.

Figure 3 - Determinants of Youth Violence [Relationship: **X** = Strong, X = Medium, x = Small, Blank = Not Found]

		Source: Child Trends	Violent Outcomes								
			Child Maltreatment	Bullying Perpetration	Delinquency Crime	Gang Violence	Intimate Partner Violence	Sexual Violence	Suicide	Self-harm	General Aggression
Correlates/Causes	Individual	Child/Adolescent Mental Health	x	x	x	x	x	x	X	X	x
		Child/Adolescent Substance Use		x	**X**		X	x	**X**	X	X
		Self Control		X	X	x	x		x	x	X
		Hostile Attribution Bias			x	x	x				X
		Dysregulated Sleep							X	X	X
	Family	Child Maltreatment	**X**	X	**X**	X	**X**	X	X	X	**X**
		Harsh Parenting	X	x	**X**	X	x		x		**X**
		Parent Mental Health	X		X	x	x		x	X	x
		Parent Drug Use	X		**X**	x	x		x		X
		Domestic Violence/IPV	X	X	X	X	**X**	**X**	X	x	X
		Unintended Pregnancy	X		X	x	X	X			
		Sexual Violence	x	x			**X**	**X**	x	x	
	School/Vocational	Bullying Victimization		x	x				x	x	x
		Bullying Perpetration		**X**	X	x	X		x		X
		Cyber Violence		x					x	X	
		Anti-social Peers		x	X	X	x	x			
		School Connectedness		x	X	X	x	x	X	X	X
		School Performance			x		x		x	x	
		School Climate		x	x	x	x		x	x	X
	Community	Collective Efficacy	x	x	x	X	x	x	X	x	X
		Media							X	x	x
		Gun Availability	x		X	**X**	X	x	**X**		

Our sense of the critical conclusion that might be drawn from Figure 3 is that *many of the predictors of violence affect many or even most of the types of violence*. For example, child maltreatment strongly predicts every single type of violence. Similarly, domestic violence/ interpersonal violence also predicts every type of violence, while unintended pregnancy is a predictor of about half of the varied types of violence. Because there are so many common predictors of violence, it is possible to concentrate prevention efforts on particular determinants. Affecting these determinants, then, should have a notable effect to reduce varied types of violence.

In the following sections, we summarize research findings on the causes of the varied forms of violence. As noted, this review is organized based on the ecological model. Accordingly, we begin with individual-level factors that might increase the likelihood of violence. Next, we consider family-level influences, followed by school-level, neighborhood-level, and then influences that are found at the societal level, such as media, laws, and economic factors. Some represent simple correlations, but other factors have a causal influence, that is, they increase levels of violence.

II. Individual-Level Factors Related to Violence

Mental Health

Mental health is commonly viewed as a risk factor for violence; particularly serious mental illness. In reality, research indicates that individuals with serious mental illness are more likely to be victims of violence than the general population (Glied & Frank, 2014). However, substance use – particularly alcohol – plays a much larger role in violence (Maldonado-Molina, Reingle, & Jennings, 2010; Swanson, 1994).

The Importance of Mental and Physical Wellness in Childhood

Childhood is the period of life when wellness promotion can be most effective. This conclusion is supported not only by a developmental perspective, where early experience shapes subsequent interactions, but also from the epidemiology of mental health disorders. Most of these have their onset in the years prior to young adulthood. New scientific findings regarding the impact of toxic stress, particularly in the early years of brain development, identify this period as a critical window of opportunity to protect young children from experiences that can set them up for lifelong difficulties.

In 2014, Child Trends produced a report for the Robert Wood Johnson Foundation proposing a model and recommendations for promoting the mental wellness of the nation's young people. The model focuses on prevention and promotion, and consists of several features:

First, it does away with the clear distinctions between mental and physical well-being. There is ample scientific evidence that such a separation is, at best, a convenient fiction. "Mind" and "body" are inseparable, with most symptoms of illness or wellness clearly evident in physiological markers, as well as in subjective appraisals of well-being.

Second, well-being—or what earlier might have been termed "optimal mental health"—is multidimensional. A young person can be more or less well, even with a diagnosis such as depression or anxiety. However, not everyone without a diagnosed condition has a high degree of well-being, and many who are ill can be flourishing in important respects. Put simply: wellness is more than the absence of illness.

Third, the model considers wellness as a resource for adaptation throughout life. At any given time, children and youth have access to more or less wellness, depending on the quality of their interactions with others and within the environments where they live, grow, play, and learn. Some experiences enhance or replenish wellness, while others deplete it.

A number of successful strategies for developing nurturing homes, schools, and communities –particularly tiered approaches that offer universal, targeted, and treatment services– are highlighted. The report concludes with a number of policy recommendations that can be implemented within the health, education, and community sectors, so that children who may begin life with one or more disadvantages have equal opportunity to have the relationships and experiences that promote wellness, and to become productive members of society.

Public perceptions. Mental health and violence are often linked in public perception. This perception is often reinforced when isolated incidents of violence are perpetrated by individuals with a mental health diagnosis. In fact, a study published in 2013 comparing the perceptions of individuals who read a news story describing a mass shooting perpetrated by a person with mental illness to the perceptions of individuals who had not read the news story, 54% of individuals who read the news story thought persons with serious mental illness are likely to be dangerous, compared to 40% of individuals who did not read the news story (McGinty, Webster, & Barry, 2013).

Review of Evidence

Research issues- differing definitions/measures. Methodological issues make it difficult to estimate the true risk that a mental illness confers on an individual. For example, not all studies use the same definition of violence. Some studies rely on criminal charges for violent offenses such as assault or homicide while other studies rely on self-reports of violent or aggressive interactions with others. Similarly, not all studies use the same definition for mental illness. Some studies focus on severe mental illness, such as schizophrenia, while others also include posttraumatic stress disorder (PTSD) or major depressive disorder. Research is needed that examines whether there are certain types of mental illness that create an elevated risk of violence (NSF, 2014).

Population attributable risk. The effect of mental illness on violence is complex, and estimates can vary widely based on the way in which researchers define mental health and violence in their studies. For example, a population-based study in five cities in the United States in the 1990s estimated that 4%-5% of all assaults could be attributed to serious mental illness (Swanson, 1994). More recently, researchers in Sweden have used data from that country's national health system combined with records of conviction of a violent crime to estimate the reduction in lifetime violent crime that could be achieved by eliminating mental illness (Fazel & Grann, 2006). If all serious mental illness were cured, they estimated that violent crime would be reduced by 5%.

Other studies that have looked at other forms of violence, including interpersonal violence, intimate partner violence, antisocial behaviors, or suicide attempts estimate more significant reductions. A recent meta-analysis, which included a much broader range of violent acts, including antisocial behaviors, found that the elimination of personality disorders would reduce the amount of violence by approximately 19%, and would reduce repeat violent offenses by 29% (Yu, Geddes, & Fazel, 2012). A longitudinal study in the Netherlands that followed 5,330 individuals for three years found that eliminating mood disorders would have resulted in a 14% reduction in interpersonal violence in those three years (Ten Have et al., 2013b). Another longitudinal study followed more than 1,000 male and female patients from a psychiatric hospital for one year after their discharge as well as comparison group of 500 individuals who lived in the same neighborhoods (Steadman et al., 1998). They found no significant difference in the prevalence of violence perpetrated by the discharged patients when controlling for substance abuse in that year, suggesting the mental illness did not confer an additional risk of perpetrating violence. However, they did find that the presence of substance abuse was a much greater risk factor for violence among the discharged patients than among the community controls.

In contrast to interpersonal violence, suicide is closely linked to mental illness. A study in Australia found that nearly half of all suicides among adults could be attributed to mental illness – including substance abuse (Page et al., 2009). However, the relationship between mental health and suicide is complex. Girls are more likely both to attempt suicide (Lewinsohn et al., 2001), but boys are more likely to die from suicide (D. A. Brent et al., 1999). Ethnicity is also associated with suicide rates; American Indian youth are generally at greatest risk and African American and White youth are

generally at lowest risk (Goldston et al., 2008). Additionally, there is evidence that conditions associated with suicidal thoughts are not necessarily predictive of suicide attempts. For example, analyses of the National Comorbidity Study Replication (NCS) found that depression was predictive of suicidal thoughts among adults while anxiety, not depression, was predictive of suicide attempts (Nock et al., 2010). However, while analyses of the NCS-Adolescent Supplement found a similar relationship between depression and suicidal thoughts among adolescents, depression was also predictive of suicide attempts, along with PTSD, eating disorders, and bipolar disorder (Nock, Green, & Hwang, 2013).

Substance use and violence. As discussed below, the link between substance abuse and increased risk of violence is one of the most robust findings in the literature regarding risk factors for violence. Many of the population-based studies that were just referenced also looked at the risk of violence that can be attributed to substance use. Using the Swedish national data, estimates for the reduction in lifetime violent crime that would result from eliminating substance abuse range from 11.6% for drug abuse, 16.2% for alcohol abuse, and 23.3% for any substance use disorder (Grann & Fazel, 2004); the Dutch study found that a reduction of 6.17% in interpersonal violence over a three-year period could be attributed to alcohol abuse (ten Have et al., 2013a); and the American study found that elimination of all substance abuse would result in a 27% drop in self-reported perpetration of assault (Swanson, 1994).

Comorbidity of substance use and mental health. When estimating the risk that can be attributed to a particular condition at the population level, researchers generally must make the assumption that there is a causal link between the condition and the outcome. Thus, these estimates of the proportion of violence that can be attributed to mental illness or substance abuse must be interpreted with caution. However, the relative magnitude of the contribution of mental illness and substance abuse are fairly consistent across studies and across countries.

Influence of mental health on substance use. It is also important to note that it can be difficult to disentangle the influence of mental illness on violence from the influence of substance use. However, it is notable that a recent analysis of data from the National Comorbidity Survey- Follow-up Study confirmed what had been found in a number of cross-sectional studies: a number of mood and anxiety disorders at baseline (e.g., PTSD, generalized anxiety disorder, major depressive disorder) were predictive of substance use 10 years later (Swendsen et al., 2010). The researchers estimated that treatment of any disorder would result in a 34.2% reduction in cases of initial drug use, 61% of cases of drug abuse among drug users, and 71.9% of drug dependence among drug abusers. However, the authors cautioned that it is 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.

Interventions

Exposure to violence is linked with both mental health concerns (Fowler et al., 2009; Norman et al., 2012) and future violent behavior (Flannery, Singer, & Wester, 2001; Whitfield, Anda, Dube, & Felitti, 2003; Widom, 1989). While mental illness confers only a small amount of additional risk for violence perpetration, research suggests that emotion dysregulation –especially anger– increases the risk of aggression (Iverson et al., 2014; Kimonis et al., 2011). This link between emotion regulation and aggression may explain why mental health interventions such as *cognitive behavioral therapy* (CBT) and *rational emotive behavior therapy* (REBT), which focus on emotion regulation, are effective in reducing violence (Litschge, Vaughn, & McCrea, 2009).

Several therapeutic interventions that have been shown to reduce violence include CBT components. For example, *Multisystemic Therapy* (MST), which provides delinquent youth and their families with home- and family-based therapeutic services and has been proven to reduce serious antisocial behavior and substance abuse, was also recently adapted to specifically address child abuse and neglect (Henggeler, Pickrel, & Brondino, 1999; Henggeler et al., 1998; Swenson et al., 2010).

Cognitive Behavioral Intervention for Trauma in Schools (CBITS) is an example of a trauma-focused clinical intervention that is designed to be implemented in schools (Nadeem et al., 2014). While evaluations of CBITS have primarily assessed clinical measures, it seems likely that such a program might also lead to reductions in violent behavior given the success of other CBT interventions.

Other interventions focus more on social learning theory with an emphasis on psychoeducation that emphasizes opportunities to role-play new skills. For example, the *Fourth R* is a school-based intervention that has been classified by the National Registry of Evidence-based Programs and Practices as a universal mental health promotion program that is designed to be implemented in 8th and 9th grades and focuses on improving students' relationships with peers and dating partners and avoiding problem behaviors (e.g., substance abuse, violence) (Crooks et al., 2008). Not only have researchers found it to be effective in preventing substance abuse, dating violence, and violent delinquency, but it seems to be particularly effective in reducing violence among youth with a history of maltreatment (Crooks et al., 2011).

It is important to note that while a large body of research exists pointing to effective clinical interventions to treat mental illness among adolescents, there are relatively few effective interventions for suicide (Asarnow & Miranda, 2014). A recent meta-analysis found evidence that cognitive behavior therapy is effective in treating suicide risk in adults but not among adolescents (Tarrier, Taylor, & Gooding, 2008). Another recent systematic review of clinical interventions for suicidal adolescents found that only one of the 15 studies included in the review had a positive outcome, reporting that individual cognitive therapy was more effective than treatment as usual (Robinson, Hetrick, & Martin, 2011). So, while there are calls to equip individuals who interact with youth –such as pediatricians and teachers– to identify youth who are at risk for suicide, we lack solid evidence that effective clinical treatments exist for those youth (Horowitz et al., 2014).

Summary: Mental Health

- Contrary to popular belief, mental health conditions are associated with only a small increase in the risk for violence perpetration.
- Mental health conditions are associated with a substantial increase in the risk of being a victim of violence, including suicide.
- Effective mental health treatments can reduce the risk of violence perpetration, largely through targeting skills like problem solving and emotion regulation that are associated with lower levels of aggression.

Sleep

The importance of sleep for well-being has been conventional wisdom for centuries, and yet nearly two-thirds of American adolescents get inadequate sleep (Eaton et al., 2010). Recently, scientists have begun to accumulate evidence to support the claim that it is indeed important to get a good night's sleep. While most studies have focused on cognitive functioning in sleep-deprived adults, an increasing number of studies have examined the effects of sleep on children and adolescents. There is reason to think that sleep problems might have a different impact on children and adolescents due

to the fact that young people's brains are continuing to develop rapidly – particularly the parts of the brain that are important for complex problem-solving (Beebe, 2011). Several recently published reviews have noted that the relationship between sleep and wellness is complex: some studies find a link with the duration of sleep and others find that sleep quality is what matters. However, there seems to be wide agreement that adequate sleep is associated with improved cognitive functioning and reduced risk of violence and aggression (Astill et al., 2012; Beebe, 2011; A. M. Gregory & Sadeh, 2012; Kamphuis et al., 2012; Shochat, Cohen-Zion, & Tzischinsky, 2014; Walker & van Der Helm, 2009).

Review of Evidence

Cross-sectional studies. In a cross-sectional analysis of data from the National Longitudinal Study of Adolescent Health (Add Health), researchers found that youth reporting less than six hours of sleep a night were more likely to engage in violent delinquent behavior, even after controlling for potentially confounding factors such as depression, impulsivity, parenting behaviors, and spending the night away from home without permission (Clinkinbeard et al., 2011). Another cross-sectional study of elementary school students found that sleepiness was associated with conduct problems, discipline referrals, and bullying (O'Brien et al., 2011). Cross-sectional studies of adolescents have also found links between inadequate sleep and a number of risky behaviors, including using alcohol or being drunk in the past month (Pasch et al., 2010) and engaging in a physical fight (Eaton et al., 2010). A recent meta-analysis found sleep problems were associated with suicide, even when controlling for other risk factors including depression (Pigeon, Pinquart, & Conner, 2012). Studies focusing specifically on adolescents have also linked sleep problems with suicidal thoughts (R. E. Roberts, Roberts, & Chen, 2001), attempts, and completions (Goldstein, Bridge, & Brent, 2008).

Longitudinal studies. Several longitudinal studies that have tracked individuals across time have confirmed the deleterious effects of inadequate sleep. For example, a longitudinal analysis of sleep quality and risk behaviors among a group of low-income African American adolescents found that sleep problems at time one were associated with future risk behaviors, including carrying a weapon, quick-temperedness, and worry (Umlauf, Bolland, & Lian, 2011). Another longitudinal study found that minority and low-income youth were more negatively affected by sleep quality than more affluent children, which the researchers suggested might be due to their higher exposure to stressful environments associated with poverty (El-Sheikh et al., 2010). A recent analysis of longitudinal Add Health data found sleep problems to be a robust predictor of suicidal thoughts and attempts even when controlling for other important predictors such as depression and alcohol use (Wong & Brower, 2012).

Experimental studies. There are few experimental studies examining the link between sleep and violence, due in part to the difficult nature of exposing children and adolescents to a deprived sleep condition. However, a recent study of 34 healthy children between the ages of 7 and 11 with no pre-existing medical or behavioral problems found that a one-hour change in bedtime for one week resulted in changes in emotion regulation and impulsivity (Gruber et al., 2012). A meta analysis of 54 studies also found a small effect (ES=.09) of sleep duration on aggressive behavior in children (Astill et al., 2012). Interestingly, when the analysis was restricted to the 4 experimental studies that were identified, the effect was stronger although still small (ES=.21).

Mechanisms

Most of the studies looking at sleep and aggressive or violent behavior in children and adolescents posit that inadequate sleep impacts the functioning of the parts of the brain that are involved in

problem-solving and inhibition; however, few studies have confirmed that link. A longitudinal study examining the relationship between childhood sleep problems and behavior inhibition in adolescence found that adolescents with sleeping problems as children had significantly more difficulty completing a commonly-used activity employed to test children's response inhibition (Wong et al., 2010). Adolescents who had sleeping problems as children were also more likely to use drugs and alcohol, a relationship that was partially mediated by poor inhibition. In a study of 30 young adults, researchers found that individuals who did not sleep the night before were more reactive to negative images than individuals who had slept normally, suggesting that inadequate sleep can impair an individual's ability to respond to negative situations (Franzen et al., 2009).

Recently, researchers have also been able to use functional magnetic resonance imaging (fMRI) to examine brain functioning under different sleep conditions. A study of 46 adolescents found that poorer sleep was associated with less activity in a part of the brain associated with inhibition and increased activity in a part of the brain associated with pleasure-seeking, indicating that youth with inadequate sleep are more likely to act impulsively and misperceive risk (Telzer et al., 2013). Another study examined the relationship between one night of sleep deprivation and brain functioning in response to aversive stimuli (Yoo et al., 2007). The researchers found that the connection between the amygdala (the part of the brain associated with responses to negative emotional stimuli) and the prefrontal cortex (the part of the brain associated with complex problem-solving and inhibition) was less engaged among individuals who had been sleep-deprived, suggesting that lack of sleep can impair an individual's ability to respond appropriately to distressing situations.

Interventions

The few interventions that have been implemented to improve sleep among young people generally involve teaching youth the importance of getting enough sleep as well as providing them with training on specific skills, particularly related to mindfulness and stress reduction. For example, a six-session group treatment for adolescents receiving substance abuse treatment was found to improve sleep and reduce aggressive thoughts and behaviors (Haynes, Bootzin, & Smith, 2006). A pilot study of a one-session intervention that focused on teaching youth and their parents sleep hygiene practices also found significant improvements in sleep and reductions in daytime sleepiness (Tan et al., 2012). A number of school districts have also changed school start times in order to encourage youth to get adequate sleep, given that adolescents tend to have sleep cycle that favor later bedtimes (Carskadon, 2011). Several studies have found that delayed school start times are associated with increased sleep time for students (Boergers, Gable, & Owens, 2014; Owens, Belon, & Moss, 2010; Wahistrom, 2002). While none of these studies have looked at the relationship between school start times and aggressive behaviors, they all found later school start times to be associated with a more positive mood, better attendance, and decreased sleepiness at school.

Summary: Sleep

- Nearly two-thirds of adolescents in America get inadequate sleep (i.e., too little sleep or poor quality sleep).
- Inadequate sleep is associated with diminished problem-solving skills and impulse control, two things that increase the risk of violence.
- Later school start times – particularly for adolescents – are associated with increased sleep for students.

Substance Use

The link between substance abuse and increased risk of violence is one of the most robust findings in the literature regarding risk factors for violence (Maldonado-Molina et al., 2010; Helene Raskin White, Brick, & Hansell, 1993). Many of the population-based studies that were referenced in the mental health section also looked at the risk of violence that can be attributed to substance use. Using the Swedish national data, estimates for the reduction in lifetime violent crime that would result from eliminating substance abuse range from 11.6% for drug abuse, 16.2% for alcohol abuse, and 23.3% for any substance use disorder (Grann & Fazel, 2004); the Dutch study found that a reduction of 6.17% in interpersonal violence over a three-year period could be attributed to alcohol abuse (ten Have et al., 2013a); and the American study found that elimination of all substance abuse would result in a 27% drop in self-reported perpetration of assault (Swanson, 1994). However, none of these studies focus specifically on the link between substance use and violence among adolescents.

It is tempting to assume that adolescents would experience similarly poor outcomes. However, social, emotional, physical, and cognitive differences between adults and adolescents require a closer examination of these relationships among youth, particularly since we know that problem behaviors in adulthood often have their roots in childhood and adolescence. Since the 1990s, a number of studies have been published that examine the links between alcohol and multiple forms of violence, and more recent studies have also begun to explore potential pathways of influence.

Review of Evidence

Alcohol and interpersonal violence. There is evidence to suggest that both acute and chronic problem drinking in adolescence is associated with an increased risk of violence and aggression towards others. A longitudinal analysis of ADD Health data found that alcohol use predicted self-reported interpersonal violence perpetration a year later, even when adjusting for other risk factors such as prior violent perpetration, victimization, weapon carrying, marijuana use, and academic problems (M.D. Resnick, Ireland, & Borowsky, 2004). A retrospective study looking at the association between drinking and dating abuse over a six-month period found that adolescents are nearly twice as likely to perpetrate physical dating abuse on days when they engage in binge drinking compared to days when they do not drink at all (Rothman, Stuart et al., 2012). The same study also found that adolescents are approximately 1.7 times more likely to perpetrate physical dating abuse or harassment/privacy invasion on days when they had consumed any alcohol. Early initiation of drinking is also associated with bullying victimization (Swahn et al., 2011). Researchers found that adolescents who began drinking before age thirteen were eighteen percent more likely to bully others when compared to their non-drinking peers; those who started drinking after the age of thirteen were at no higher risk than their non-drinking peers. They also found that the risk of being a victim of bullying was twice as high for youth who began drinking before age thirteen and 1.4 times higher for those who started drinking after the age of thirteen.

Alcohol and self-directed violence. In addition to violence against others, problem alcohol consumption – especially early initiation of drinking– is associated with violence against one's self. An examination of data from the nationally representative National Survey of Drug Use and Health found that initiation of drinking before the age of thirteen was associated with suicide risk among thirteen to fifteen year-olds (Bossarte & Swahn, 2011). A nationally representative cross-sectional study of adolescent drinking, using data from the Youth Risk Behavior Survey, found that both early alcohol initiation and binge drinking are associated with comorbid reports of suicide attempts and physical fighting (Swahn et al., 2013). Additionally, a review of self-harm and alcohol use examined

data from 23 studies concluding that there is evidence that problem drinking is associated with risk of self-harm (Moller, Tait, & Byrne, 2013).

Not only is alcohol consumption during adolescence associated with youth violence, but it is also associated with violence in adulthood. A longitudinal study spanning approximately 35 years examined the relationship between frequent adolescent drinking and perpetration of violence later in life, including violent crime as well as self-reported interpersonal violence (Green et al., 2011). The researchers found that frequent adolescent drinkers were twice as likely to have a violent arrest compared to light/non-drinkers using propensity score matching. There was no difference in other violence, including self-reported violence or suicidal behavior. Binge drinking in adulthood mediated the relationship, accounting for 26.5% of the variance. Authors note that alcohol use disorder tends to come after arrest, so focusing on problematic drinkers who do not yet meet criteria for disorder is a promising approach for violence prevention. This was a study of low-income African Americans.

Gender differences. There is evidence that the relationship between substance use and violence is complex and differs by gender, with males generally at higher risk for violence perpetration. For example, while a meta-analysis found that binge drinking increased the risk of dating violence perpetration 1.5 times and problem drinking more than doubled the risk among both boys and girls, the authors noted that the only study included in the analysis that examined the relationship separately by gender found a significant association between dating violence perpetration and binge drinking only among boys (Rothman, McNaughton Reyes et al., 2012). Another study, using longitudinal ADD Health data to examine the association between adolescent drinking and violence involving a weapon or resulting in the victim needing medical care, found that binge drinking increased the risk of violent *perpetration* among males and violent *victimization* among females (Popovici et al., 2012). An analysis of drinking style as a mediator of the relationship between childhood victimization and dating violence perpetration and victimization reveals that risk factors may affect boys and girls differently (Rothman et al., 2011). Among males, childhood victimization had a direct effect on dating violence perpetration while childhood victimization had an indirect effect on dating violence perpetration among girls, primarily through increased problem behaviors in general. These gender differences may explain why some policies to prevent problem drinking among youth affect boys and girls differently. For example, a recent study in New Zealand found that reducing the minimum age to purchase alcohol resulted in an increase in assaults resulting in hospitalization among young men, but no change in assaults among young women (Kypri et al., 2014).

Pathways from alcohol abuse to violence. There are a few potential pathways by which alcohol has been posited to influence violent behavior. Some researchers have suggested that youth who engage in problem drinking are likely to associate with an anti-social peer group (Kuntsche, Gossrau-Breen, & Gmel, 2009; Rossow, Pape, & Wichstrom, 1999). Others have suggested that alcohol intoxication may serve as a proximal risk through impairing impulse control and decision-making (Esposito-Smythers & Spirito, 2004; Helene R. White et al., 2011). It is important to note that these pathways may affect boys and girls differently. For example, one study found that girls were less likely than boys to act violently when they spent time around intoxicated peers (Kuntsche et al., 2009). Genetics and early life stressors also mediate the role between alcohol and violence, with some individuals being more prone to alcohol-related violence than others (Heinz et al., 2011; Tikkanen et al., 2010).

Interventions

Treatment. Because problem drinking is a risk factor for violence, substance abuse treatment can be thought of as violence prevention. There are a number of outpatient interventions to treat alcohol abuse among adolescents, the most effective of which include family therapy and/or group counseling and incorporate motivational interviewing techniques (Tanner-Smith, Wilson, & Lipsey, 2013). Recently, efforts to enhance substance abuse treatment through technology have been successful, particularly when it comes to preventing relapse. For example, 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).

Prevention programs. A number of programs to prevent substance abuse exist and have been shown to be effective. Most prevention programs are delivered in school and afterschool settings. *Lifeskills Training* and *Positive Action* are both school-based, universal prevention program that consist of a sequenced set of curricula that have been proven to prevent substance abuse and violence (Botvin, Griffin, & Nichols, 2006; Li et al., 2011). A recent study found that the *Positive Action* intervention had differential effects by gender, with reductions in self-reported bullying primarily among girls and reductions in parent-reported bullying primarily among boys (K. M. Lewis et al., 2013). The authors suggested that parents might be more accurate at reporting on the more overt bullying behaviors that boys engage in due to the fact that such behaviors are more likely to result in discipline referrals at school. They also noted that girls exhibit greater self-honesty when reporting on bullying behaviors and thus assessments over time are more likely to detect a change. *The Good Behavior Game* has also been show to prevent substance abuse and violent behavior (Embry, 2002). In fact, a longitudinal study found that students who were exposed to the intervention in first and second grades had significantly lower rates of substance abuse and violent behavior than their peers into adulthood (Kellam et al., 2011).

Policies. Research suggests that the availability of alcohol in a community is associated with violence, even when controlling for other risk factors such as firearm availability, drug activity, and gang activity (Parker et al., 2011; Resko et al., 2010). As such, a number of researchers have examined the potential effects of increasing the cost of alcohol as a way to reduce the rates of problem drinking (Wagenaar, Tobler, & Komro, 2010). Researchers who have looked at which individuals would be most impacted by changes in alcohol costs have generally found that problem drinkers would bear the most significant burden, suggesting that these increases are most likely to impact the kind of alcohol consumption that is associated with violence (Daley et al., 2012). A recent study in the UK found that problem drinkers would be affected 200 times more than low risk drinkers if a minimum unit price were introduced for alcohol due to the fact that problem drinkers tend to purchase low-cost alcohol (Sheron et al., 2014).While adolescents in the United States are not legally allowed to purchase alcohol, a recent study found that adult binge drinking rates by state are associated with youth drinking at the population level and that increases in alcohol tax are associated with reductions in youth drinking, mediated by reductions in adult binge drinking (Xuan et al., 2013).

Summary: Substance Abuse

- Alcohol abuse, particularly when co-occurring with a mental health condition, confers a substantial increase in the risk of both violence perpetration and victimization.

- There are differences in the influence of alcohol by gender (e.g., binge drinking is associated with increased *perpetration* of violence among males and increased violent *victimization* among females).
- Effective substance abuse prevention programs can reduce the risk of violence perpetration

Disability

Violence against and by persons with disabilities is a largely overlooked problem in the research literature on violence. This is particularly unfortunate as persons with disabilities represent a vulnerable group that can be affected by both the kinds of violence that affect the general population, as well as by violence directed specifically at those with disabilities, e.g., disability hate crimes, financial abuse, over-medication, violence in institutions, and greater dependency in perpetrator–victim relationships (Mikton & Shakespeare, 2014). Persons with certain disabilities, e.g., intellectual and developmental disabilities, may also be the perpetrators of violence at differential rates from those without disabilities. Unfortunately, there are fundamental gaps in the evidence related to the public health approach (problem definition, determining risk and protective factors, devising programs, and scaling up) to addressing the issue of violence by and against persons with disabilities. These gaps include a lack of data about the prevalence and risks, risk and protective factors for, and causes of these kinds of violence.

A fundamental difficulty in addressing the issue of violence by and against those with disabilities is that there is no universal definition of 'disability,' much less of particular disabilities, across sectors. Another difficulty is that the majority of data gathering in this area has been for persons 15 years of age and older (Sullivan, 2009); a lack of data on violence exposure and victimization of children and youth with disabilities is common across many of the criminal justice and child maltreatment databases. Nonetheless, a sense of the prevalence of disabilities can be given (Sullivan, 2009): based on the Survey of Children with Special Health Care Needs, about 14 percent of all children in the U.S. have special health care needs and the National Mental Health Information Center estimated that about 4 percent of all children in the U.S. have special mental health care needs that include emotional, behavioral, or developmental disorders requiring treatment. A review of fifty articles concluded that there is sufficient research evidence to conclude that children and youth with some type of disability are at increased risk to be the victims of violence from birth through adolescence (Sullivan, 2009). One study cited by Mikton (Mikton, 2014) found that children with disabilities had a threefold increased risk of having suffered violence as compared to children without disabilities.

While these findings must be considered in light of cultural biases in the measurement of intellectual ability, there is evidence from several studies that low executive functioning, measured as a low IQ score, is a correlate of future perpetration of violence:

> "…in the Philadelphia Biosocial Project, low verbal and performance IQ at ages four and seven and low scores on the California Achievement Test at ages thirteen to fourteen (vocabulary, comprehension, math, language, spelling), all predicted arrests for violence up to age twenty-two (Denno 1990). In Project Metropolitan in Copenhagen, a follow-up study of over 12,000 boys born in 1953, low IQ at age twelve significantly predicted police-recorded violence between ages fifteen and twenty-two (Hogh and Wolf 1983. The correlation between IQ and violence was a remarkable -. 94, and the link between low IQ and violence was strongest among lower class boys. Similar results were obtained in the London and Pittsburgh studies. Low nonverbal IQ at ages eight to ten in London predicted both official and self-reported violence, and low school achievement at age ten predicted

official violence in London and court petitions and reported violence in Pittsburgh. The extensive meta-analysis by Lipsey and Derzon (1998) also showed that low IQ, low school attainment, and psychological factors such as hyperactivity, attention deficit, impulsivity, and risk-taking were important predictors of later serious and violent offending" (Farrington, 1998).

A few more narrowly focused studies have looked at risk factors and particular kinds of violence. One study found that physical health impairments and mental health impairments were associated with a higher risk of IPV victimization, compared with those without reported impairments (Hahn et al., 2014). Another study found that dating violence victimization and perpetration were associated with an avoidant attachment style for all maltreated youth, with a particularly strong effect on youth with lower levels of measured intellectual ability (Weiss et al., 2011). A third study found that disability was a significant predictor of sexual victimization for boys, but not for girls: more than a quarter of girls with disability had experienced contact sexual victimization, compared with 18.5 percent for boys with disability, but the boys were nearly three times as likely to have been victims than non-disabled boys (Mueller-Johnson, Eisner, & Obsuth, 2014). It is important to note that the direction of causality in this area is not always clear; it might be argued that the disability was the result of the victimization, or that the victimization was facilitated by the disability, or that a vicious circle with an uncertain starting event or condition has been established.

Although more data are becoming available, there is still a need for better data collection and standardization of definitions across sectors as a prerequisite for better understanding and addressing the problem of violence against and by persons with disabilities.

Self-Regulation

Self-regulation refers to an individual's ability to regulate responses in order to achieve goals and compensate appropriately when original goals are blocked (Lippman et al., 2013). This includes managing stress, controlling impulses, motivating oneself, and the ability to alter behavioral, emotional reactivity in social interactions. Self-regulation encompasses both self-control and self-discipline, uniting them as constructs that involve both conscious and subconscious behavioral changes related to goal attainment (C. Peterson & Seligman, 2004). It should be noted that one particular aspect of self-regulation is impulse control, defined as the ability to override one's initial responses in order to achieve goals and behave morally (Lippman et al., 2013). Individuals high in self-regulation tend to use their strengths to get the most out of their current context in order to achieve their goals (Lippman et al., 2013).

Outcomes

Self-regulation is found to be negatively linked to a number violent outcomes, including delinquency, crime, substance use, associating with peers who use substances, maladaptive coping, dating violence, bullying, novelty seeking and negative life events such as suspension (Lippman et al., 2013).

Bullying. In the case of violent outcomes, it is key to note that the definition of self-regulation captures individuals' ability to recognize and manage emotions in order to respond to conflict in calm and assertive ways. Research finds that individuals with high levels of self-regulation are less likely to bully others. Subsequently, children who frequently bully others tend to have trouble managing anger and tend to strike out aggressively. Children report that the need to relieve stress

and having a bad day are the primary reasons they bully others (Ragozzino & O'Brien, 2009). Additionally, a 2009 study found that students expressing higher levels of sadness and emotional instability, exhibiting lower levels of self-regulation, are more likely to be victims of bullying (Ragozzino & O'Brien, 2009). Children who did not learn self-regulation in preschool often engage in bullying behavior with aggressive habits of interaction that are difficult to break in later years (Boyd et al., 2005).

Teen Dating Violence. Poor self-regulation is identified as a risk factor in teen dating violence. Self-regulatory failure is positively correlated with dating abuse, in a 2013 study of 223 adolescents; low levels of self-regulation were significantly related to perpetration. It is reported that self-regulatory failure has more powerful risk components for dating abuse as compared to sexual history and family background (Reppucci et al., 2013). Similar findings were reported in a 2009 study, which revealed that self-regulatory failure is an important predictor of intimate partner violence (IPV). The study utilized five diverse methodologies, including; a within-subjects assessment of IPV impulses versus behaviors, longitudinal procedures involving a representative sample of rural adolescents, and experimental procedures (Finkel et al., 2009).

Risky Drinking and Sexual Behavior. High levels of self-regulation are broadly understood to be protective against drinking and risky sex among adolescents and emerging adults. In a 2010 one-year longitudinal study of 1,136 college students, high self-regulation was found to inversely predict heavy episodic drinking, alcohol-related problems, and unprotected sex, even when taking into account gender and risk factors (Quinn & Fromme, 2010)

Positive Outcomes. It follows from this discussion that a range of studies find high levels of self-regulation to be related to a number of positive outcomes, including educational achievement and attainment; caring, character, competence, and confidence; civic engagement (leadership, service, helping); behaviors associated with positive youth development; and desistance from antisocial behaviors (Gestsdottir & Lerner, 2007; Lippman et al., 2013).

Risk and Protective Factors

Research has found that children develop foundational skills for self-regulation in the first five years of life (Blair, 2003). This means that early childhood teachers and home environments play an important role in the development of self-regulation skills. Evidence indicates that if children do not systematically practice deliberate and purposeful behaviors, important neural pathways will not be reinforced. In order to develop self-regulation skills, children need many opportunities to experience and practice with adults and capable peers. School or home environments that lack self-regulation modeling and opportunities for child engagement or practice risk underdeveloped self-regulation skills (Blair, 2003).

Proven and Promising Interventions

A variety of programs seek to raise individuals' levels of self-regulation. It should be noted that most of these programs target improving self-regulation in younger children (infants to fifth graders). One such example is *Al's Pals*. Al's Pals is a comprehensive curriculum and teacher training program that develops social-emotional skills, self-control, problem-solving abilities, and healthy decision-making in children ages 3-8 years old. Al's Pals promotes a plethora of skills, including; conflict resolution and peaceful problem-solving, appreciation of differences and positive social relationships, prevents and addresses bullying behavior, and conveys clear messages about the harms of alcohol, tobacco and other drugs. Research finds that children who participate in Al's Pals demonstrate significant increases in positive social behaviors (Lynch, Geller, & Schmidt, 2004). This increase is

complemented by findings that indicate a child who does not participate in Al's Pals is two to six times more likely to increase his or her use of anti-social and aggressive behaviors such as hitting, kicking, name-calling or bullying. Extensive positive evaluation findings have resulted in Al's Pals receiving recognition from leading federal agencies and national organizations.

Another proven program is *Leadership Education through Athletic Development (LEAD)*. LEAD is a school-based martial arts training program wherein students participate in LEAD classes instead of routine physical education classes. It is intended to increase students' self-regulation skills. Children are encouraged to self-monitor their behavior by asking themselves three questions: Where am I?, What am I doing?, and What should I be doing?. They are reminded to be responsible for their own behavior in all aspects of their lives. Program evaluation finds that LEAD students show greater cognitive, affective, and physical self-regulation than did children assigned to the control group. The program impact is especially strong for boys (Databank, 2007; Lakes & Hoyt, 2004).

The *PAX Good Behavior Game (PAX GBG)* takes self-regulation intervention work to the classroom (Paxis, 2014b). The intervention includes a set of evidence-based strategies and a classroom game intended to increase self-regulation and cooperation and decrease unwanted behaviors (Ramirez, 2013). Students learn how to self-regulate during both learning and play time. The National Registry of Evidence-Based Programs and Practices, maintained by the U.S. Substance Abuse and Mental Health Services Administration conducted an independent review of the quality of scientific outcomes of PAX GBG. The study found a 30% to 60% reduction in referrals, suspensions or expulsions and significant reductions in life-time juvenile and adult criminal acts. PAX GBG also reduced the use of tobacco or other drugs over a child's lifetime by 25% to 50% (C.P. Bradshaw et al., 2009; Paxis, 2014a). In an intervention evaluation conducted in three first-grade classrooms in each of nine schools in Baltimore City, PAX GBG students had fewer teacher-reported problem behaviors than control group students ($p=.03$ for boys; $p=.01$ for girls). Boys in PAX GBG group had fewer peer nominations for aggression than boys in the control group ($p=.02$). It was also found that PAX GBG students were three times more likely than control group students to be in the low-aggressive/disruptive behavior trajectory based on teacher reports (odds ratio = 3.117, $p < .01$ for boys; odds ratio = 3.059, $p < .05$ for girls) (C.P. Bradshaw et al., 2009; Ramirez, 2013). This program was recently tested across the province of Manitoba, and, while formal results from the random assignment study are forthcoming, initial findings are very promising.

Too Good For Violence is a promising project that promotes character values, social-emotional skills – including self-regulation – and healthy beliefs of elementary and middle school students. The program includes seven lessons per grade level for elementary school (K-5) and nine lessons per grade level for middle school (6-8). Too Good For Violence was evaluated by the U.S. Department of Education What Works Clearinghouse in 2006. The program was found to have potentially positive effects on students' behavior, knowledge, attitudes and values. In terms of student behavior, evaluation research reported statistically significant differences favoring the intervention group. However, in terms of knowledge, attitudes, and values, study authors reported no statistically significant impacts. This is not to say that there isn't opportunity for growth, change and expanded impact (WWC, 2006). Such programs are both proven and promising avenues to promote increased levels of self-regulation to ultimately reduce violent behaviors.

Summary: Self-Regulation

- Difficulties with self-regulation are linked to a number of violent outcomes, including bullying, drinking, unprotected sex, and teen dating violence

- Home and school are environments that can serve to foster and strengthen self-regulation skills, which is especially important during early childhood
- There are a number of school-based programs that are shown, or demonstrate promise, to improve student's self-regulation skills and decrease aggressive behaviors
- Classroom-based programs such as Too Good For Violence and the PAX Good Behavior Game help to improve social and emotional skills, including self-regulation

Hostile Attribution Bias

Hostile attribution bias refers to the tendency to assign negative intent or motive, such as disrespect or harm, to others' social cues, such as tone of voice, facial expressions, and body language, especially those cues that are ambiguous. Attributions fall within the broader context of social information processing, a series of steps by which individuals encode environmental cues, assign attributions to environmental cues, select goals for a given situation, generate possible responses within a given situation, evaluate whether a certain response will yield the desired goal, and enact the chosen response (Crick & Dodge, 1994). Although components of social information processing have been found to be situation-specific, such as peer group entry versus peer provocation situations, hostile attributions are found to be consistent across situation types, suggesting that how children understand their social world supersedes context when assigning intent to others' actions (Dodge et al., 2002).

As evident from the series of social information processing steps, how individuals attribute social cues relates to their subsequent processing and response, which could be more prosocial or antisocial pending how individuals proceed through the steps (Crick & Dodge, 1994). Attributions become problematic when one's interpretation of social cues defaults to the assumption that other individuals intend to cause them harm, as opposed to perceiving a harmful experience as accidental or unintentional. Early difficulties with social information processing are found to be related to similar problems later on, especially during the preadolescent and adolescent period (Lansford et al., 2006). Lansford and colleagues (2006) examined gender and ethnicity differences in profiles of social information processing in kindergarten, 3rd grade, and 8th grade. These profiles included no problems, early problems, later problems, and pervasive problems. Higher percentages of boys than girls were represented in the problem profiles, as were African American relative to European American students. Although this finding lends insight into demographic differences, it is important to consider the historical and societal contexts that relate to the lens through which boys and minority students process social information. For example, Nyborg and Curry (2003) found that, among African American boys, perceived personal racism related to hostile attribution biases which, in turn, related to externalizing behaviors. It is important to note that, irrespective of gender or ethnicity, Lansford and colleagues (2006) found that social information processing problems were linked to higher teacher and parent reports of externalizing behaviors. .

Problems with various components of social information processing, including hostile attributions, have implications for other outcomes, as well.Social information processing difficulties are linked to later antisocial and externalizing behaviors (Lansford et al., 2006). For example, Dodge and colleagues (2002) followed children from kindergarten to third grade to examine relations between early components of social information processing and later aggression. They found links between hostile attributions, evaluations of the effectiveness of aggressive responses, and aggressive behavior. Hostile attributions are also linked to antisocial and aggressive behavior (Crick & Dodge, 1994; Dodge et al., 2002; Zelli et al., 1999). For example, a meta-analysis for 41 studies found a significant

association between hostile attribution of intent and aggressive behavior, with larger effects for severe aggressive behavior (Orobio de Castro et al., 2002). Given links between hostile attributions, it is important to consider the factors that facilitate and prevent tendencies towards hostile attribution bias.

Risk Factors

A number of risk factors for hostile attributions have emerged, including poor emotion understanding, mistrust, justification of aggressive behavior, and peer rejection (Calvete & Orue, 2011; Choe et al., 2013; Dodge et al., 2003; Lansford et al., 2010; Orobio de Castro et al., 2002). Emotion understanding and regulation are key components of social information processing (Lemerise & Arsenio, 2000; Nas, Orobio de Castro, & Koops, 2005). Children who have difficulties understanding their own emotions and how others experience emotion tend to make hostile attributions (Dodge et al., 2002). These children have a hard time understanding that others' emotional reactions may differ from their own.

Researchers have also considered the underlying cognitive processes that affect biased social information processing, including mistrust, justification of violence, and narcissism (Calvete & Orue, 2011; Dodge et al., 2002; Zelli et al., 1999). Central to hostile attributions is misperceived intent of others' social cues, at the basis of which is a mistrust of others. Calvete and Orue (2011) noted that mistrust is the belief that peers are unworthy of trust, the expectation that peers will hurt, abuse, humiliate, or take advantage of them, and the belief that harm is intentional or due to negligence. In processing the possible response options to an ambiguous situation, individuals who believe others' actions are intentional are likely to believe that an aggressive or violent response is acceptable and justifiable. Indeed researchers have found these underlying cognitive schemas to relate to social information processing and aggression over time. Zelli and colleagues (1999) found that boys and girls who believed aggressive retaliation to be an acceptable response to have more deviant processing of information one year later and greater aggression 2 years later. Calvete and Orue (2011) found that justification of a violent response related to aggressive response access, which in turn, predicted reactive aggression, and that mistrust predicted more hostile attributions. This body of research is helpful for understanding how flawed thought processes contribute to poor social information processing and subsequent aggression.

Peer rejection is linked to a number of negative outcomes, including processing of information and tendencies towards hostile attribution bias. Lansford and colleagues (2010) examined a cascade model of early risk factors and later outcomes. They found that peer rejection related to subsequent aggression and problems with social information processing, both of which in turn, related to later peer rejection, suggesting a cyclical and bidirectional relation of these processes. Dodge and colleagues (2003) posited that children who are rejected by peers have fewer chances for positive social interactions by which they could learn social skills and how to process information. Rather, rejected children are likely to persist in negative interactions that relate to poor social information processing, including assuming hostile intent and generating negative response options in hypothetical situations, for example. Orobio and colleagues (2002) found a stronger link between hostile attribution and aggression for rejected children.

Protective Factors

Researchers have also considered characteristics that decrease the likelihood of making hostile attributions. Key factors in protecting against such negative social information processing, include advanced theory of mind, emotion understanding, and positive peer relationships. Advanced theory

of mind and emotion understanding have been found to be particularly helpful for preschool-aged children, as these skills relate to fewer hostile attributions even at five years of age (Choe et al., 2013). Young children who were better able to understand that, although the ways in which people think are related to their behavior, these are still distinct constructs. That is, it is possible for a behavior to be inversely related to how a person thinks, as in the case of an accidentally harmful behavior. Additionally, children who were able to understand that how others' react emotionally may differ from how they themselves might react emotionally may differ. In Lansford and colleagues (2010) examination of the cascade model of risk factors, they found that social preference, or being more liked by peers, was linked to better social information processing and lower aggression.

Interventions

Programs that promote social and emotional skills linked to social information processing would be useful, as well as programs that promote positive peer relationships, in reducing hostile attributions and related aggression and violence. *PATHS* is a proven program for prek-6th grade students, grounded in social and emotional learning skills. The *PATHS* program promotes many of the components associated with hostile attribution bias, including emotion understanding and emotion regulation, as well as conflict resolution, empathy and responsible decision-making. The program has been linked to reduced aggressive behavior and increased self-control, emotion vocabulary, and cognitive skills. Programs such as *Gang Resistance Education and Training (GREAT)* and *Second Step* help children learn how to manage their anger and recognize and understand others' emotions.

Other promising practices might target the various aspects of social information processing, such as through the use of cognitive behavior therapy whereby children can learn how to identify automatic thought processes that lead to a tendency of making hostile attributions. Additionally, behavior modification strategies may have the potential to reduce aggressive responses (Lansford et al., 2010).

Summary: Hostile Attribution Bias

- Misattributions of intent are central to social information processing difficulties and are related to aggressive behaviors
- Emotion understanding, advanced theory of mind, and positive peer relationships can protect against misattributions that underlie hostile attribution bias
- Programs such as PATHS, GREAT, and Second Step aim to foster social and emotional skills, such as emotion understanding

Cumulative Risks

Researchers have consistently found that children and youth who experience multiple risks have poorer developmental outcomes than those who experience just one risk or no risks. For example, a measure of cumulative risk based on measures in the National Survey of Children's Health has been found related to a number of negative outcomes, such as being suspended or expelled or having behavioral and emotional problems (Moore, 2006). The ACEs (Adverse Childhood Experiences) measure identifies significant negative experiences in children's lives and persons who experience a greater number of adverse childhood experiences have been found to have poorer developmental outcomes among adolescents (Moore & Ramirez, 2015), as well as poorer health and socioeconomic outcomes decades later.

In recent years, the concept of trauma has provided a unifying language for negative experiences. However, decades of work have yielded multiple definitions of trauma, which the U.S. Substance Abuse and Mental Health Services Administration (SAMHSA) has attempted to resolve:

"Combing through this work, SAMHSA developed an inventory of trauma definitions and recognized that there were subtle nuances and differences in these definitions. Desiring a concept that could be shared among its constituencies — practitioners, researchers, and trauma survivors, SAMHSA turned to its expert panel to help craft a concept that would be relevant to public health agencies and service systems. SAMHSA aims to provide a viable framework that can be used to support people receiving services, communities, and stakeholders in the work they do. A review of the existing definitions and discussions of the expert panel generated the following concept:

> "Individual trauma results from an **event**, series of events, or set of circumstances that is **experienced** by an individual as physically or emotionally harmful or life threatening and that has lasting adverse **effects** on the individual's functioning and mental, physical, social, emotional, or spiritual well being" (Huang et al., 2014).

Linking Risk and Protective Factors

As noted above, it is important to both reduce risk factors and increase protective and promotive factors. In the presence of risk factors, it is also possible that protective factors can offset risks. Fergus (Fergus & Zimmerman, 2005) includes the following linking of assets (protective factors) with risk factors:

> "In reference to adolescent violent behavior, assets that have compensated for individual-level risk factors include prosocial beliefs compensating for antisocial socialization (56), religiosity compensating for interest in gang involvement (4), and anger control skills compensating for risk-taking behavior (48). Two dimensions of racial identity, public regard and centrality, are assets that Caldwell et al. (23) found to protect against the effects of racial discrimination on violent behavior among 325 African American adolescents studied from ages 14 to 20. Maternal support has both compensated for and protected against the risk factor for violent behavior of getting in a fight, whereas paternal support has been protective (116). Finally, the resource parental monitoring has compensated for the effects of risk-taking behavior on violent behavior (48). Anger-control skills compensate for the effects of peer delinquent behavior for predicting adolescent violent behavior (48). Perceived social status was found to moderate (i.e., a protective factor) the relationship between peer delinquent behaviors and adolescent violent behavior (80). Parental monitoring was also a compensatory factor (48). Adolescents' religiosity also compensated for the risk of peer substance use (55) and exposure to violence for violent behavior (4). Parental factors are also

> consistent resources to help youth overcome risks for violent behavior. Maternal support protected youth from the negative influences of peer violent behavior (116). Parental monitoring and paternal support were found to compensate for peer violent behavior (55, 116). Parental monitoring also compensated for the risk of living in a risky neighborhood (48). Maternal and paternal support also compensated for and protected youth from the negative consequences of exposure to violence (116). Researchers have also found assets and resources that compensate for cumulative risk factors for violent behavior. Borowsky et al. (9) found among 13,781 seventh- through twelfth-grade adolescents studied over two years that academic performance, parental presence, parent-family connectedness, and school connectedness, alone and in combination, compensated for the cumulative effects of prior violent behavior, violence victimization, substance use, and school problems on violent behavior. Other researchers have found that cumulative measures of assets and resources compensate for cumulative risk factors (79, 101)."

This excellent synthesis illustrates the point that there are few main effects. Most effects are interactions. Biology interacts with environment. Personality interacts with risk. This reality provides part of the explanation why practitioners and researchers have not identified a "silver bullet" answer – some simple intervention that works broadly. Nevertheless, it is clear that a number of determinants, alone and also in combination with other risk or protective factors, are strongly related to the risk of violence. Having considered determinants at the level of the individual, we now move on to consider determinants at the level of the family.

III. Family-Level Factors Related to Violence

Sexual Violence

Sexual violence, including rape, forced penetration, sexual coercion, unwanted sexual contact and non-contact unwanted sexual experience constitute a public health problem in the United States. Sexual violence has many adverse health consequences, including depression, anxiety, posttraumatic stress disorder, substance use, sexually transmitted diseases (STDs), pregnancy, pregnancy complications, and gastrointestinal problems (Black, Basile, Breiding, Smith, Walters et al., 2010). Nearly 20 percent of women and two percent of men have been raped at some time in their lives. Someone known to the victim commits nearly two-thirds of all rapes. Although sexual violence is not limited to romantic relationships, more than half of female victims and about 40 percent of male victims report that an intimate partner raped them. Moreover, one in two women and one in five men have experienced some form of sexual violence other than rape in their lives. Men perpetrate the overwhelming majority of sexual violence (97 percent) against women (Black, Basile, Breiding, Smith, Walters et al., 2010).

Risk Factors for Sexual Violence Perpetration

Research on risk factors for sexual violence perpetration in the United States is somewhat limited. Existing research finds that risk factors for sexual abuse perpetration include negative gender based attitudes, childhood sexual abuse, and alcohol and substance use (A. Abbey, et al., 2001; Carr & VanDeusen, 2004). One meta-analysis found that malleable risk factors for sexual violence perpetration include factors such as emotional abuse, forced sex, illicit drug use, attitudes supporting marital violence, and marital satisfaction (Krug et al., 2002). A study of male perpetrators of sexual assault in college found that perpetrators were more likely than non-perpetrators to report hostility toward women, past sexual experiences, drinking in sexual situations, and adolescent delinquency (A. Abbey & McAuslan, 2004). Another study with college men found that prior non-sexual violent perpetration was associated with perpetration of sexual violence (Gidycz, Warkentin, & Orchowski, 2007).

Teen Dating Violence

Teen dating violence (TDV), also referred to as Adolescent Dating Violence or Adolescent Relationship Abuse, is a pattern of behaviors that includes physical, emotional, verbal, or sexual abuse used by one person in a romantic relationship to exert power and control over another. TDV is generally understood as occurring between the ages of 13 and 19, but this is not a strict parameter and it may occur with much younger persons. National estimates suggest that between one in ten (Centers for Disease Control and Prevention, 2014) and one in four teens (Ybarra, 2013) have experienced some form of dating violence. In one study among adolescents admitted to an emergency room, for example, one in six teens reported TDV victimization (Singh, 2014). TDV often includes controlling behaviors and increasingly this extends to electronic media.

Between 10 and 25 percent of teens report experiencing cyber abuse (Zweig et al., 2013). Cyber abuse and cyber dating aggression (terms that are often used interchangeably) may take the form of sending threatening or emotionally abusive texts, emails, and messages, posting sexual pictures online, or monitoring a partner's cell or social media use. One study found that about one-third of middle-school age teens reported that they had been the victim of cyber dating aggression and one-fifth reported perpetrating cyber dating aggression (Cutbush, 2012).

Teen dating violence may also include behaviors that endanger reproductive health, such as sexual abuse and birth control sabotage. This puts victims at increased risk for STDs and unplanned pregnancy. Teen dating violence also puts adolescents at risk for a host of other negative outcomes, including depression, anxiety, decreased school performance, eating disorders, physical injuries, and involvement in violent intimate relationships later in life (Databank, 2013).

Young men and women report perpetration and victimization of teen dating violence at equal rates, although teen males more often report perpetrating sexual abuse and teen females more often report perpetrating physical abuse (Databank, 2013; Vagi et al., 2013; Ybarra, 2013). Females do, however, tend to sustain physical injuries and require medical treatment at greater rates than males (Databank, 2013).

Discrepancies both in the prevalence rates and the experience of dating violence by gender point to the need for improved measures for teen dating violence. Teen dating violence, in relation to other forms of violence, is relatively new to the research field and thus the complexities of abuse have yet to be disentangled, particularly for LGBTQ youth. Many experts in the field agree that it is not appropriate to apply an adult framework to teen relationship violence, given several major distinctions, including differing power dynamics (females are not typically financially dependent on males), less relationship experience (fewer negotiation and other relationship skills), and peer influence. Peer influence plays a much more important role in adolescence than in adulthood and qualitative research finds that teens behave differently as a "couple" in private than in front of their friends. Qualitative research found that adolescent boys may be more likely to be violent in front of friends to "save face" than in private (O'Leary, 2008). Similarly, conflict about time spent with friends versus alone and time spent with friends of the opposite sex appear to play key roles in conflict between adolescent couples. Many of the issues that arise for teen couples are developmentally appropriate until they cause conflict and escalate to violence. Teens need knowledge and tools to differentiate between healthy and unhealthy behaviors (Mulford, 2008).

Malleable Risk and Protective Factors for Teen Dating Violence Perpetration

Fifty-eight risk factors for teen dating violence perpetration and victimization were identified in one meta-analysis conducted on teen dating violence with various groups, including heterosexual males and females. Malleable risk factors for dating violence perpetration with larger effect sizes included: acceptance of violence in dating relationships, substance use, a history of violence, prior dating violence, peer aggression, and friends perpetrating dating violence, among others (Vagi et al., 2013).

Other research has found prior experience with violence, including child abuse and witnessing intimate partner violence, aggression tolerant attitudes, depression, general aggression, and marital conflict to be additional risk factors with smaller effect sizes for TDV perpetration (Boivin et al., 2012). Lower collective efficacy, lower social control, and greater neighborhood disorder were associated with dating violence perpetration in one cross-sectional study (Rothman et al., 2011). Females' TDV perpetration is more strongly associated with "internalizing symptoms" like depression, anger, hostility, and experiencing dating violence victimization than young men's perpetration. Young men's perpetration of TDV is more strongly associated with low socioeconomic status and educational attainment, antisocial personality characteristics, and increased relationship length, than young women's perpetration (Dardis et al.).

Few community and policy level factors have been identified as contributing risk factors for teen dating violence perpetration; but some research suggests that exposure to weapons in the community and exposure to community violence increase the risk of perpetration of violence,

including dating violence. Recent research using data from the *Coaching Boys into Men* TDV prevention program has found that participation in football and basketball and participation in football alone are associated with an increased likelihood of perpetrating TDV, compared with participation in other sports (wrestling, tennis, and swimming) (McCauley, Jaime et al., 2014). This same study found that athletes with gender-inequitable attitudes were more than three times as likely to abuse a dating partner, and that football and basketball players were more likely to have gender inequitable behaviors (McCauley, Jaime et al., 2014)

For adolescent males, research finds mixed results on the role of school bonding as a risk factor for TDV, including one meta-analyses that found it was a risk factor for boys and a protective factor for girls, and another that found it was a protective factor for both genders (Boivin et al., 2012; Vagi et al., 2013). Research suggests that school bonding may increase as school climate improves and students feel safer, in general, attending school. One direct pathway to achieve this feeling of "safety" is for students to have close relationships with teachers and other authority figures in schools (Eccles & Roeser, 2011).

A report summarizing effective action steps for reducing school violence suggests an integrated approach that includes community and school partnerships, individualized plans targeting at-risk students, and overall improvement of school climate. This report, which commented on policies regarding general school violence and not specifically dating violence, also found that zero tolerance policies were not developmentally appropriate for adolescents (American Psychological Association, 2008).

Research finds that parental monitoring and friendship quality may play protective roles for TDV as well as other types of adolescent violent behavior (Capaldi et al., 2012; Foshee et al., 2011). Friendship plays an important role in adolescents' lives developmentally and the role of friendship quality as a protective is not surprising, given that many teens choose partners from their friendship group and that their friends' behaviors tend to influence their own. These factors may help to explain why peer and friendship factors can appear as both risk and protective factors in adolescent dating relationships.

Intimate Partner Violence

Unfortunately, adolescents involved in violent romantic relationships during adolescence are at increased risk of being involved in violent intimate partner relationships as adults. Similar to teen dating violence, intimate partner violence (IPV) is traditionally defined as a pattern of coercive behaviors in which one person attempts to control another through threats or actual use of physical violence, sexual assault, verbal and psychological abuse, and economic coercion (Ooms et al., 2006). IPV can be further understood through categorical "types." These types range in behavioral patterns of the abuser and pose varying degrees of risk to victims as well as their children:

- *Coercive Controlling Violence* is a pattern of power and control (M.P. Johnson, 2008) that includes emotional abuse, isolation, minimizing, denying, and blaming; use of children asserting male privilege, economic abuse, coercion, and threats (Pence & Paymar, 1993). Importantly, coercive control includes a broad range of behaviors. Extreme physical violence that occurs within a coercive controlling relationship has been referred to as "intimate terrorism" within feminist perspectives on IPV. This type of abuse is what many general audiences think of as "domestic violence," although it does not represent a large proportion of the violence that occurs in intimate relationships. Notably, research has found

that misogyny and adherence to traditional gender roles are significant risk factors for perpetration of intimate terrorism (Holtzworth-Munroe, 2000; Sugarman, 1996) .

- *Violent Resistance* includes victims resisting Coercive Controlling Violence. Violent Resistance is done in self-defense, or as a reaction to an assault to protect oneself (Kelly & Johnson, 2008). Violent Resistance is often committed as a last resort for victims of IPV seeking to escape from their abusers.
- *Situational Couple Violence* occurs in the context of a single argument and does not include a chronic pattern of controlling behaviors (Leone et al., 2004).
- *Separation-Instigated Violence* occurs in the relationship at separation without a history of relationship violence (Kelly & Johnson, 2008).

Research finds that women's exposure to Coercive Controlling Violence results in more serious injuries and health outcomes than Situation Couple Violence. Women are also much more likely to experience Coercive Controlling Violence than they are to perpetrate it, and they are more likely to perpetrate Violent Resistance or Separation Instigated Violence than Coercive Controlling Violence (Swan, 2008). For women, Situational Couple Violence results in fewer health problems, physician visits, and psychological symptoms, less missed work, and less use of painkillers, than Coercive Controlling Violence (M.P. Johnson & Leone, 2005). Some literature also suggests that children's exposure to Coercive Controlling Violence is more likely to yield the most severe and extensive adjustment problems in children, compared with Situational Couple Violence or Separation-Instigated Violence (Kelly & Johnson, 2008). Some studies have found associations between Coercive Controlling Violence and femicide (J.C. Campbell et al., 2003).

Some recent research suggests that men and women are equally likely to perpetrate IPV and that the risk factors for each gender tend to be the same. Research using nationally representative data finds that women tend to use physical aggression more often than men; but, in studies that compare severity of injuries, need for intervention, or severity of abuse, men more often commit violence that "seriously" injures a woman than vice versa (Swan, 2008). The types of violence that men and women perpetrate vary, however. For example, research finds that while that both males and females may perpetrate intimate terrorism, males are much more likely (in heterosexual couples) to perpetrate intimate terrorism (M.P. Johnson, 2008). Research finds that women who are convicted for perpetration of IPV are often found to have been perpetrating violence in the context of men's intimate partner violence against them, or Violent Resistance (Swan, 2008). Among convicted female perpetrators of IPV, more than 90 percent reported victimization from their male partner. Similar results were found in several studies (Swan, 2008). For example, qualitative studies with women who had been court ordered to batterer's intervention programs, found that the majority of female perpetrators described their actions as done in self-defense, or done to protect their children (M.P. Johnson, 2008).

Research also finds that women who were convicted of intimate partner violence (or were on trial), including women who murdered their partners, have few distinctions from women who had not been convicted. These women were, however, much more likely to have experienced intimate partner violence, including frequent attacks, severe injuries, sexual abuse, and death threats. Many of the most severe incidents happened when women threatened or attempted to leave their partners. Many of the women had also attempted suicide, which may point to the sense of hopelessness that accompanies violent victimization (Kelly & Johnson, 2008) .

Risk Factors for IPV Perpetration

Meta-analyses of the literature on IPV find that factors for perpetration include: financial stress, witnessing IPV as a child, childhood physical abuse, childhood sexual abuse, parent-child boundary violations (e.g., seductive behaviors, peer-like relationship, or child as parental caretaker), poor monitoring in late childhood (male perpetration only), negative emotionality (e.g., anxiety, anger, hostility), conduct disorder, antisocial behavior (males), suicide attempts (men), suicide attempt history, alcohol and drug use, hostile attributions, generation of aggressive responses, and positive evaluation of aggressive responses.

Extensive research, including several longitudinal studies, has found child sexual abuse, child abuse, and parent-child boundary violations to be a risk factor for IPV perpetration. Other parent-level characteristics have also been examined, such as parents' anti-social disorder; but most research finds that adolescent's proximal development of anti-social disorder mediates the link to IPV risk. In other words, if parents' behavior leads to anti-social behavior on the part of the child, this can increase IPV risk.

Drug and alcohol use are also strong malleable risk factors for IPV perpetration, and interestingly, alcohol use is one of the few areas where there is a notable gender discrepancy in level of risk, with a higher risk for women (Capaldi et al., 2012; Klostermann, 2006).

Social isolation has been studied in a limited scope as a risk factor for perpetration and victimization (Capaldi et al., 2012) and correspondingly some research suggests that quality of friendship and social support are protective factors against perpetration and victimization of IPV. Couple conflict and satisfaction, for all types of unions, has also found to be a strong proximal risk factor for IPV (Capaldi et al., 2012). One of the strongest malleable risk factors for IPV, however, is pregnancy.

Unintended Pregnancy and Violence

The relationship between pregnancy and intimate partner violence (IPV) is well-established (P. Charles & K. Perreira, 2007; James, Brody, & Hamilton, 2013 ; C. Pallitto, J. Campbell, & P. O'Campo, 2005). IPV during pregnancy has negative maternal and child health consequences and IPV during pregnancy is associated with low birth weight and preterm birth (El Kady, 2005; Shah, 2010). Alarmingly, pregnancy, whether planned or unplanned, increases women's risk for experiencing IPV, and IPV increases a woman's risk for experiencing an unplanned pregnancy (C. C. Pallitto, J. C. Campbell, & P. O'Campo, 2005). Unplanned pregnancy has been identified as a strong, malleable risk factor for abuse during and after pregnancy (P. Charles & K. M. Perreira, 2007; Goodwin et al., 2000; James et al., 2013), even for women who were not in violent relationships before becoming pregnant (C. C. Pallitto et al., 2005). Sexual assault, psychological abuse, and birth control sabotage are examples of behaviors of abusive partners that increase a woman's risk of experiencing an unwanted pregnancy when she is in a violent relationship. Notably, one cross-sectional study found that women report high rates of birth control sabotage whether or not they report being involved in a violent intimate partner relationship (Elizabeth Miller et al., 2010).

Nearly half of the pregnancies in the U.S. are unplanned; among teens and low-income adults the proportion of unplanned pregnancies is even higher (Finer & Zolna, 2014). The consequences of unplanned pregnancy for child well-being are long-lasting. For example, these children are more likely to experience maltreatment and neglect, experience an unplanned pregnancy themselves, and engage in drug and alcohol use, crime, and gang activity (Jaffee et al., 2000). One study found that

children born to mothers who reported the pregnancy was "unwanted" had twice the risk of dying within 28 days of birth than wanted pregnancies (Hummer, Hack, & Raley, 2004).

Notably, gender differences exist for many of these child outcomes. Boys born to teen mothers tend to experience more externalizing problems, such as delinquency, gang involvement, and violence/crime. Girls born to teen mothers tend to experience more internalizing problems, such as depression and anxiety. Both genders are at high risk of early parenting. There are also differences during the life course: during adolescence there is a greater risk of unplanned parenthood and negative adult-child interactions, and in adulthood there is greater risk for involvement in crime (than children not born to adolescents) (Jaffee et al., 2000; Pogarsky, Thornberry, & Lizotte, 2006). In these studies, maternal education has one of the largest mediating effects on child outcomes (Manlove, 2008; Pogarsky et al., 2006; Sidebotham & Heron, 2006).

Unplanned pregnancy and IPV during the prenatal period are both independently associated with maternal behaviors that affect infant health, and can lead to low birth weight, and preterm birth (T. J. Joyce, Kaestner, & Korenman, 2000). This is particularly important because these infant outcomes have also been linked with child abuse in some studies (Jacquelyn C. Campbell, 2002; Gazmararian et al., 2000; T. J. Joyce et al., 2000; Sidebotham & Heron, 2006). However, empirical research provides mixed evidence to suggest that pregnancy intendedness has a direct association with risk for physical child abuse (Sidebotham & Heron, 2006; Stier et al., 1993). In studies that found some correlation between pregnancy intendedness and physical child abuse, controlling for maternal education and poverty accounted for nearly all variance (Connelly & Straus, 1992; Sidebotham & Heron, 2006; Zuravin, 1991).

Co-Risk Factors: Romantic Abuse and Other types of Violence

Perhaps unsurprisingly, many of the risk factors for violence perpetration in intimate partner relationships are shared with risk factors for perpetration of other types of violence. Specifically, alcohol and substance use, exposure to or experience of violence in childhood or youth, behavior or mood disorders, and attitudes accepting of violence are some of the more well-documented risk factors for perpetration of violence, including sexual violence, intimate peer violence, and other aggression (Elliott, 1994; Huizinga, 1995; Loeber, K., & Q., 1997; Wijk et al., 2005).

Adolescence

Many forms of sexual violence and relationship violence disproportionately affect adolescents. Young women ages 16-24, in particular face the highest rates of teen dating violence and sexual assault (Hogan, 2012). One in five women on college campuses has experienced a sexual assault (Krebs et al., 2007). Seventy percent of victims first experience IPV by the age of 25, and as mentioned above, 80 percent of victims of completed rape were first raped before the age of 25 (Black, Basile, Breiding, Smith, Walters M.L. et al., 2010).

Adolescence also appears to be a critical time to intervene and change some of the malleable risk factors for violence perpetration later in life. A meta-analysis of studies evaluating recidivism of adolescent sexual offenders finds that adolescent sexual offenders, once identified, do not tend to re-offend, and when they do, it tends to be a non-sexual offense (ATSA, 2012). This being said, about eight percent of adolescent sexual offenders in the United States do re-offend, and adolescents are more likely to re-offend during adolescence than in young adulthood, and are also more likely to re-offend than adult offenders. This suggests there is something about the developmental time period of adolescence that puts adolescents at greater risk for re-offending (ATSA, 2012).

Interventions and Promising Practices to Prevent Sexual Assault and Relationship Violence

Prevent Violent Intimate Partner Relationships

Primary prevention is widely agreed upon as the optimal approach to prevention of violence. The Theory of Planned Behavior suggests that health education can change intentions, thus leading to a change in behavior (as the title suggests). Evidence-based and promising interventions to inform adolescents (and adults) about the benefits and characteristics of healthy relationships can help these individuals make smarter decisions about partner selection, change the way they view power dynamics and gender equity, and teach key skills to foster communication and prevent conflict in relationships.

Relationship Education (RE) and Teen Pregnancy Prevention (TPP) Programs. Most teens date at some point before the end of their high school years, and most young adults have had sex by the age of 25. Healthy relationships that foster positive self-esteem, respect, and communication skills can play an important role in adolescent development. The majority of pregnancies that occur among teenagers are unplanned, however, and, as outlined above, not all teen relationships are healthy ones. Relationship education programs can help teens engage in healthy relationships, and may have additional benefits such as promoting safe sex practices. Many evidence-based RE programs contain pregnancy prevention and safe sex components or modules and many teen pregnancy prevention programs contain components related to healthy and unhealthy relationships.

Some components of RE programs that may affect TPP outcomes include: Communicating with partners; Communicating with parents; Condom negotiation; Gender and power; and dating violence.

Some components of TPP programs that may affect RE outcomes include avoiding risky sexual behaviors; STD/HIV prevention; Pregnancy prevention; choosing a partner; and dating violence.

There is an array of evidence-based relationship education and teen pregnancy prevention programs.

Some examples of evidence-based relationship education programs with teen pregnancy prevention components include: *Connections: Dating and Emotions*; *Love U2: Relationship Smarts PLUS*; *Best Friends*; *Choosing the Best*.

Some examples of evidence-based teen pregnancy prevention programs with relationship education components include: *SIHLE*; *Healthy Choices, Healthy Relationships*; *Teen Outreach Program*; *Aban Aya Youth Project*; *Carrera Program*; *It's Your Game: Keep it Real*. In the case of teen pregnancy, a number of evidence reviews have been conducted to identify effective programs, for example, a forthcoming review by Child Trends and the review conducted for the Office of the Assistant Secretary for Planning and Evaluation by Mathematica and Child Trends.

These programs have not generally been evaluated to determine whether they prevent violence, but promoting healthy relationships, communication skills, and conflict resolution is meant to prevent precursors to violence. Although there is some cross-over between RE and TPP programs, intentional integration of the two types of interventions could result in more effective services for youth. (Scott, 2014)

Teen Dating Violence Prevention Programs also share similar components with RE and TPP programs though their focus is typically on preventing and ending violent relationships rather than

the positive youth development focus of Relationship Education programs. These programs tend to be implemented with high-risk groups of teens. There are several evidence-based TDV prevention programs.

Start Strong is a Robert Wood Johnson Foundation funded evaluation, conducted in collaboration with Futures without Violence and Blue Cross of California. These partners supported teen dating violence programming with 11-14 year olds at eleven sites nationwide. An independent evaluation found that Start Strong positively influenced students' attitudes toward teen dating violence and gender equality and notably, these attitudinal changes were observed at the two year follow up. Teacher attitudes were not notably influenced by the program. Policy evaluation was a key piece of this program. More than half of schools changed policy at some stage of socio-ecological spectrum, many implementing anti-bullying policies within their schools. Program sites provided technical assistance and awareness building to inform changes to state legislation. State legislation was strengthened in three states (Blue Shield of California Foundation, 2013).

Dating Matters is a TDV curriculum developed by the CDC that is currently undergoing a large-scale longitudinal randomized control trial evaluation by NORC that will be finished in 2017. The intervention will measure students' knowledge and attitudes toward TDV as well as TDV victimization and perpetration over four years. The evaluation team is also collecting information on high school dropout, implementation components, community indicators, and school climate.

Coaching Boys into Men is a TDV curriculum for high school athletic coaches that fosters respect and educates young men about harassment and dating abuse. Student athletes in this program were less likely to abuse their partners one year later than student athletes who did not participate in the program (McCauley, Dick et al., 2014). Another evaluation found that student athletes in the program were more likely to intervene and able to recognize abusive behaviors than a control group (Elizabeth Miller et al., 2012).

Apps, online games, and other web-resources

Jennifer Ann's Group is a TDV awareness organization that aims to help young people learn to recognize the signs of dating violence. The organization also provides support to help those in violent relationships find the resources, protection and assistance they need to get out of their relationship. http://www.jenniferann.org/

That's Not Cool is an educational campaign developed by FWV and the Office on Violence Against Women and the Advertising Council that is meant to help teens learn to recognize dating abuse. The campaign focuses on dating abuse and pressure through digital platforms such as by mobile phone or online. The campaign's website has games that help teens learn to recognize the risks of sending nude photos and build the skills needed to say "no."
http://www.thatsnotcool.com/Games.aspx

The Apps Against Abuse Challenge, "1 is 2 many," is a nationwide challenge implemented by Joe Biden and former Health and Human Services Secretary Kathleen Sebelius calling on software companies to develop apps that provide young people with access to resources and tools to prevent and avoid dating violence and sexual assault. The campaign has led to the creation of apps such as On Watch, which allows the user to easily contact domestic violence or sexual assault hotlines, the police or their support network, as well as set countdown timers that will automatically send messages or GPS location: http://www.whitehouse.gov/1is2many/apps-against-abuse

Provider Screening

The United States Preventive Service Task Force (USPSTF) recommends screening women for intimate partner violence in clinical settings. This review also identified several effective screening tools that health care providers may use to screen women for IPV (H. Nelson, Bougatsos, C., Blazina, I., 2012). Continued research around screening and protocols for providers across fields (health care, program, direct service) would provide an intervention point (albeit after violence has occurred) that could mitigate the effects of unhealthy relationships such as unplanned pregnancy, further violence, and negative child outcomes. Protocols could also instruct providers on how to appropriately connect victims and perpetrators to wraparound services, and give guidance to health care providers on prescribing contraceptive methods that are discreet and resistant to sabotage.

Batterer's intervention programs

Most research on batterer's intervention programs has focused on heterosexual male perpetration of violence against their female partners. Many surveys and interventions, however, do not ask men about their sexual orientation. There is a wide gap in research and interventions for same-sex perpetrators of violence, as well as for interventions aimed at female perpetrators of violence.

Batterer's intervention programs have been studied in quasi-experimental and experimental studies. In experimental studies, however, completers and non-completers of programs tend to be grouped together as individuals who were assigned to the intervention and compared against those who were not assigned to an intervention. In quasi-experimental studies, research finds that men who complete the interventions re-assault their partners at much lower rates than those who drop out (Recidivism for completers is 0-18% in a review of BIP evaluations and 10-40% for dropouts). In general, about one-third of men who complete batterer intervention programs re-assault their partners (Carrillo & Tello, 2008).

Researchers have found that about one-third of men who are arrested for domestic violence will re-assault their partner within six months, and a similar percentage who are given a restraining order for domestic violence will re-assault their partner. Notably, men who have what is referred to as a "stake in conformity," often measured by employment or marital status, re-abuse their partners less often. In studies of the effectiveness of arrest (experimental and quasi-experimental) at reducing re-abuse, this presence of a stake in conformity is a protective factor for preventing re-abuse (Carrillo & Tello, 2008).

Research also finds that culturally based interventions can reduce risk factors for perpetration of domestic violence (Wortham, 2014). A small but persistent group of researchers study culturally sensitive approaches to healing trauma as a means of reducing violence. This group highlights some of the problems with batterer's intervention programs, including their inability to address the systemic problems present in men's lives such as inadequate economic resources, violence in their own family, alcohol problems, and the tendency to group together people with wide disparities in psychological problems into the same intervention. These researchers have found that culturally-sensitive or tailored programs that meet the needs of racial and ethnic subsets can best get at intergenerational healing. Some promising interventions (without any formal evaluations that I have been able to locate) include:

La Cultura Cura is a program that provides services for youth in the community, schools and courts to promote a healthy development and well-being framework through cultural values and traditions. The program is culturally-based, meaning that it takes into account Chicano/Latino culture in its services and encourages individuals and families to find a healthy developmental path while

maintaining their cultural values and identity. The program offers a number of services to prevent youth, family, and intimate partner violence by encouraging healthy development and wellbeing. La Cultura Cura has a variety of curricula including El Hombre Noble Buscando Su Palabra which is aimed at healing Latino Men who have perpetrated IPV, Men and Women of Honor which is a family violence curriculum, and Joven Noble which targets youth violence and teen pregnancy prevention (Carrillo & Tello, 2008; NLFFI, 2012; Tello, 2012). These have been developed in conjunction with the National Latino Fatherhood and Family Institute and the National Compadres Network (IFDLR, ; NCN, ; Tello, 2012).

Men Stopping Violence is an organization aimed at ending violence against women by teaching men about the importance of violence intervention and prevention, and that their actions make a difference. To discourage the idea that domestic violence is a "women's issue," Men Stopping Violence encourages men to become involved in intervening and preventing violence against women. The organization educates men about how to end abusive behavior and trains social workers, hospitals, universities and other organizations about how to intervene when someone is abusing their partner. The organization also created the Because We Have Daughters program, which teaches men through activities and discussions how to build a safe environment for their daughters and other young girls. Men at Work: Building Safe Communities is another program created by MSV and is one of the few programs that encourages prevention as well as intervention by teaching men to take responsibility for their actions (MSV, 2014a, 2014b, 2014c).

Men Ending Violence is a program that takes a trauma-centered approach to educate perpetrators of IPV about the root causes of violence, and to help work toward healthy future relationships. The Alma Center, where Men Ending Violence is implemented, reports that completion of this program reduces recidivism by 86 percent.

Wisdom Walk to Self Mastery also uses a trauma-centered approach that incorporates elements of the indigenous Dagara medicine wheel to help participants progress through cognitive and behavioral recovery activities. The ultimate goal of the program is to help men uncover the root of their violent behavior and become positive members of their families and communities.

Caminar Latino began as the first Spanish language support group for women who were victims of IPV in the state of Georgia. The program successfully combines a tailored feminist theory to domestic violence, emphasizing Hispanic (predominantly Mexican) culture and values (Perilla, 2012). This program now includes a batterer's intervention program containing a substance abuse education component, which is unique among these types of programs. Notably, according to the program's website, 90 percent of families with a man attending Caminar Latino reported that physical violence in the home had stopped within two weeks of the man entering the program.

STOP DV provides a batterer's intervention for court-ordered perpetrators tailored for LGBT populations. This program includes information about internalized homophobia, racism, and other forms of discrimination like transphobia and sexism.

As briefly mentioned above there is a gap in research pertaining to female perpetrators of IPV, but a new intervention has been evaluated using a quasi-experimental design and looks promising.

MOVE: Mothers Overcoming Violence through Education and Empowerment is currently being evaluated (quasi-experimental design). It is believed to be the first research in the country to focus on court- or agency-required interventions designed for women who are victims of IPV and who also have children. It specifically for women who are victims of IPV that are also charged with perpetration.

Components of the course include safety, effective parenting, communication, anger management and self-advocacy. Sessions focus on "helping the mothers feel special" and include "festive sit-down dinners."

MOVE mothers report an increased ability to protect their children from abuse and violence, fewer symptoms of depression, stress and PTSD. They also report stronger coping skills, and less victimization and improved attitudes toward parenting (Marcy, Guo, & Ermentrout, 2013).

Prevent unplanned pregnancy and repeat unplanned pregnancy

Teen Pregnancy Prevention Programs. Numerous reviews have addressed this topic, and dozens of approaches with positive impacts have been identified. A review being completed by Child Trends will identify a number of programs that reduce one or more predictors of adolescent parenthood Fish et al., forthchoming). More broadly, both public and private sources of contraception reduce the incidence of unplanned pregnancy; and strengthening and expanding these programs could contribute to reducing violence.

Access to Abortion. Economic theorists have debated whether the legalization of and increased access to abortion has decreased violent crime in the U.S. The theory underlying these analyses suggests that a decrease in unplanned pregnancies will decrease the number of children born into less desirable circumstances (i.e., to poverty, less prepared parents) and thus decrease the population of potential offenders. Analyses, however, produce divergent results regarding this hypothesis. (Donohue, 2001; T. Joyce, 2002).

Long Acting Reversible Contraception (LARC). *LARCs* are long-acting reversible contraceptives, and they are the most effective methods of contraception available to women, largely because they greatly reduce or eliminate the potential for user error. Teens who chose a LARC were more likely to still be using their method of birth control after two years than teens who chose another method of birth control (O'neil-Callahan et al., 2013). Research suggests that women who have experienced a previous unplanned pregnancy and vulnerable populations (such as low-income and low education individuals) are more likely to choose a LARC as their primary method when provided with comprehensive birth control counseling than women who have not have a prior unplanned pregnancy or women who have a college education (Frost & Darroch, 2008; Whitaker et al., 2010).

A community level study of widespread provision of LARCs was conducted in St. Louis. The Choice Study provided women at risk of unintended pregnancy with information about contraceptive options using a tiered approach from the most effective to the least effective options. After this comprehensive counseling, three-quarters of women selected a LARC. Eighty-six percent of women who chose a LARC were still using that method at a one year follow-up compared to just 55 percent of women who chose some other method (Rosenstock, 2012). Women who chose a method other than a LARC or the shot had unplanned pregnancy rates up to twenty times higher than women who did choose a LARC or the shot at the one year follow up (Winner, 2012).

Programs and policies that increase educational attainment for pregnant and parenting teens. Maternal education can mediate the effects of unplanned pregnancy and IPV for children. Given that the majority of unplanned pregnancies occur among adolescents, interventions that aim to improve educational attainment for pregnant and parenting teens may have considerable potential reach to influence child well-being.

Promising Approaches

Title IX is a federal policy that requires equal access to school and extracurricular activities for both genders. It is commonly known for providing equal access to sports in schools for men and women, but it has the potential to have important implications in the violence prevention field.

For example, Title IX protects pregnant and parenting students from being penalized for being pregnant or being parents. This prohibits schools from penalizing women for absences due to pregnancy or childbirth or asking mothers to leave school and enroll in a GED program. Schools with more supportive programs around Title IX policies have more success in reducing dropout. For example, Massachusetts implemented a program for pregnant and parenting teens and in the first year, the dropout rate for pregnant and parenting teens decreased by 27 percent.(*Not the exception: making teen parent success the rule*, 2012).

Title IX also requires schools to ensure acts of sexual assault are equitably handled for both genders. In 2012, the Association of Title IX administrators publicly re-clarified that Title IX applies a social justice framework to the way that colleges address sexual violence. For example, colleges are required to appoint a Title IX coordinator to make sure that processes in place for grievance resolution are equitable for victims and those accused.

School Based-Health Centers simplify access to care by providing preventive services on-site for adolescents. This model increases "seat time" by returning students to class who need quick interventions and linking students to a wide range of wraparound services that may otherwise go unnoticed and potentially lead to dropout (including violence). Research also finds that School Based Health Centers are a preferred access point for care for teens from racial and ethnic minorities (Keeton, 2012), as well as for teens seeking mental health services. Teens reported they were 10-21 times more likely to seek mental health services at a school based health center than a traditional HMO or a community based organization (Juszczak, Melinkovich, & Kaplan, 2003). School Based Health Centers can play important role in pregnancy and proximally dropout prevention, though state and school regulations dictate whether they can provide reproductive health services including contraceptive services and pregnancy testing. One study found that teens with access to a School Based Health Center were more likely to have used a hormonal method of birth control at last sex than those who did not have access (Ethier, 2011).

Gaps in interventions

There are no rigorously evaluated interventions aimed at reducing alcohol-related sexual violence, teen dating violence, or intimate partner violence. Sometimes alcohol or substance use is an exclusion criterion for programs serving perpetrators of IPV.

Some batterer intervention programs that have undergone RCTs have shown promising outcomes, but less so for men with alcohol abuse issues (Taft & Toomey, 2005).

Research suggests that culturally sensitive services targeting at-risk families and children can mediate the effects of intimate partner violence and reduce risk factors of violence perpetration (Wortham, 2014). There is a gap, however, in available, especially well evaluated, culturally-tailored services.

Research that better explores the complexities of all gender-based violence is needed to help policy makers and practitioners serve victims and perpetrators of abuse. The shift in screening criteria for screening IPV among women (it was not recommended in 2004, but is recommended as of 2012) is an excellent example of a collaboration between the research, policy, and practice communities.

Interventions targeting adolescents should continue to be developed and rigorously evaluated, particularly those that are culturally-tailored. There is a substantial gap in dating violence and healthy relationship interventions for LGBT youth.

Summary: Sexual Violence, IPV, and Teen Dating Violence

- Sexual violence, intimate partner violence, and teen dating violence are distinct yet interrelated types of abuse. They each have different typologies and none necessarily includes physical contact.
- Adolescence is a critical period for intervention for all of these types of violence.
    - Primary prevention is widely regarded as the most effective and most cost-effective way to achieve lasting results.
    - There are more types and a greater number of rigorously evaluated programs targeting adolescents than adults, and they span sectors, including: teen pregnancy prevention programs, relationship education programs, and teen dating violence prevention programs.
    - Efforts to improve school climate may also help to prevent multiple types of adolescent violence.
- Interventions focused on pregnancy prevention, including the promotion of LARCs, can have lasting effects on maternal and child health for women and teens at-risk of experiencing intimate partner violence.
- Relationship education programs that have a teen pregnancy prevention component are particularly pertinent for teens who may be at risk for relationship abuse, as these individuals are at an increased risk for experiencing an unplanned pregnancy. Some of these programs are: *Connections: Dating and Emotions*; *Love U2: Relationship Smarts PLUS*; *Best Friends*; *Choosing the Best*.
- Similarly, evidence-based teen pregnancy prevention efforts that contain information about healthy relationships may be most useful for teens at risk for relationship violence perpetration or victimization. Some of these programs are: *SIHLE*; *Healthy Choices, Healthy Relationships*; *Teen Outreach Program*; *Aban Aya Youth Project*; *Carrera Program*; *It's Your Game: Keep it Real.*
- There is a wealth of teen dating violence prevention programs currently undergoing rigorous evaluation, including Start Strong and Dating Matters. Programs that have already shown effects on reduction of some indicator of teen dating violence include: *Safe Dates*, the *Fourth R*, and *Coaching Boys into Men*.
- One innovative approach to teen dating violence prevention is a TV Series called The Halls. This program follows Boston youth as they deal with trauma, masculinity, and relationship issues and includes an accompanying curriculum and social media kit for educators.
- While there are many evidence-based programs for teens, more rigorous evaluations are needed, particularly for programs that are tailored for LGBTQ youth and racial and ethnic minorities.
- Batterer's intervention programs that take a trauma-centered approach and help perpetrators explore the root causes of violence appear to be the most promising.
    - More rigorous evaluation of these promising interventions is needed, particularly interventions that contain substance abuse components.

Parenting

The literature on violence has found many family characteristics to be associated with violent behaviors among children and youth. These findings are not surprising, as the family is the first socializing group from which children learn beliefs, values, and behaviors considered to be significant and appropriate for the social context. Parents socialize their children to control undesirable impulses and regulate their behavior; acquire knowledge, skills, behaviors, and aspirations for effective adaptation and function within communities; and to become competent adults who will pass this onto their own offspring (D. R. Shaffer, 2009).

There are also indirect familial characteristics associated with the development of violent behavior, including poverty or low income socioeconomic status of the family, which increase stress on family members and reduce resources available for childrearing. Additionally, there are family process characteristics that are directly associated with the development of violent behaviors, including (1) parent-child relationships, (2) parenting practices, and (3) parental mental health and drug use. The socioeconomic status of the family may not be amenable to change in prevention or intervention programming, but many indirect family process characteristics are malleable. This section focuses on characteristics that research has consistently identified as important and that programs can positively shape to prevent or intervene in the development of violence.

Parent-child Relationships

The relationship between parents and children has been identified as an important factor in the development of antisocial behavior (Speltz, Deklyen, & Greenberg, 1999). Negative parent-child relationships pose an elevated risk for externalizing (acting out) behavior in the preschool and early grade school years (Van Ijzendoorn, Schuengel, & Bakermans-Kranenburg, 1999). Antisocial behavior in these early years may lead to oppositional defiant disorder (ODD) later in childhood; and, when ODD in conjunction with aggression and other childhood disorders, such as Attention Deficit Disorder (ADHD), an increased risk of developing delinquent behaviors in adolescence and criminal behavior in adulthood is observed (D. S. Shaw, Bell, & Gilliom, 2000a; Speltz et al., 1999).

On the other hand, parents who are sensitive and responsive to children's needs can foster healthy relationships or secure attachments that contribute to children's positive social and emotional outcomes (D. S. Shaw, Bell, & Gilliom, 2000b). Sensitive and responsive parents develop a trusting and secure relationship with their children (D. Shaffer & Craft, 1999) in which children welcome contact with the parent and feel secure to explore their environment, trusting that the parent will be there if needed (Bowlby, 1969). Less sensitive and responsive parents, who are critical, punitive, and indifferent to children and their behavior, foster insecure relationships or attachments. Unfortunately, insecure relationships are associated with aggression and antisocial behaviors in childhood.

When children's needs are not met, either because the parent does not have the skills to do so in sensitive and responsive ways or the child is highly irritable, or difficult and places high demands on the parent, children may stop asking their parents to meet their needs and parents may withdraw their attempts to meet children's needs (D. S. Shaw et al., 2000a). Children at this point may increasingly show undirected anger and defiance, while less skillful parents may reciprocate the children's behavior. This pattern of early interactions will adversely affect the quality of the parent-child relationship and will place them at risk for aversive interactions, which may become the building blocks for parent-child conflict and conduct problems at preschool-age (D. S. Shaw et al., 2000a) and these in turn may influence later antisocial and criminal behavior.

Parenting Practices

The parenting practices that parents employ not only affect the quality of the parent-child relationship, but also affect children's antisocial and violent behavior. These dysfunctional parenting practices range from permissive, inconsistent, and harsh discipline to child abuse.

Permissive, Inconsistent, and Harsh Parenting

A meta-analysis, an analysis of 38 research studies examining the factors associated with later involvement in the adult criminal justice system, indicates that early age onset of antisocial behavior predicts adult antisocial behavior, and that parenting that is coercive, inconsistent, or lacking in supervision during childhood is a strong predictor of adult criminality (Leschied et al., 2008). This meta-analysis also indicated that parenting practices measured in adolescence are good predictors of adult criminality. Other studies have also found that children who experience frequent physical punishment (spanking) may be more likely to exhibit antisocial behaviors; though, this may not be entirely the case for African-American children. Some research suggests that even though physical punishment is associated with higher levels of externalizing behaviors among white children, this may not necessarily be true for African American children's antisocial behavior. For African American children, antisocial behaviors influence parenting practices more than the reverse (Horn, Joseph, & Cheng, 2004). However, more research needs to be conducted to solidify these racial/ethnic variations as other studies have indicated that physical punishment is significantly associated with acting out behavior of both white and African American children (Horn et al., 2004).

In addition to antisocial and criminal behavior, the literature has also linked parental corporal punishment with intimate partner violence. According to Schwartz and colleagues (J. P. Schwartz et al., 2006), coercive parenting tactics may teach children that aggression and intimidation are appropriate means to maintain relationships and deal with conflict. Additionally, the experience of hostile and rejecting interactions with parents may shape children's expectations of rejection in social situations and children may perceive a general lack of power and control in their relationships (J. P. Schwartz et al., 2006). In an effort to gain control and avoid rejection or abandonment, individuals may resort to partner intimidation and aggression in their intimate relationships. Inconsistent, punitive, and harsh parenting practices make it difficult for a healthy, secure, and trusting parent-child relationship. Additionally, these parenting tactics do not teach children how to recognize and understand the emotional reactions of others (J. P. Schwartz et al., 2006) and this has been associated with a general hostile attribution bias toward others (a tendency to think that others have a hostile intent in an ambiguous situation ((D. R. Shaffer, 2009); see the section on hostile attribution bias for an in-depth discussion of this bias).

Child Maltreatment

Numerous studies have found that experiencing childhood maltreatment is associated with externalizing behaviors in childhood, juvenile/adult violence (Topitzes, Mersky, & Reynolds, 2012), involvement in serious delinquent acts (Moretti, Catchpole, & Odgers, 2005), and adult criminal behavior (Leschied et al., 2008).

The literature also suggests that child maltreatment affects boys' and girls' antisocial behavior in different ways. For example, Topitez and colleagues (Topitzes et al., 2012) found that while early maltreatment is a precursor of later violence for both males and females, maltreatment is associated with a greater number of out-of-home placements and school moves, and externalizing behavior during adolescence for males only. This environmental instability and externalizing behavior is in turn, is associated with males' later violent crime. However, females' externalizing behavior and maltreatment are directly associated with their adult violent crimes (Topitzes et al., 2012). Along

these sex differences, another study found that female delinquents were more likely than male delinquents to have a history of physical, sexual and emotional abuse, and physical neglect (McCabe et al., 2002). Additionally, female adjudicated delinquents have been found to have significantly higher rates of parent-reported maltreatment (Reef et al., 2011). Research has also found that girls in the justice system have experienced multiple forms of abuse and trauma compared to boys (Moretti et al., 2005). Other researchers have made similar assertions stating that trauma is strongly associated with delinquent behaviors of girls compared to boys' (Breslau et al., 1991).

These studies suggest that females who experience abuse and trauma are more vulnerable to developing violent behaviors compared with boys. It may be that traumatic experiences put females over the brink of society's expectations for females to behave pro-socially (Reef et al., 2011).

Family Violence

A review of the literature examining the link between witnessing intimate partner violence and antisocial behaviors found that children in these violent homes are likely to display externalizing behaviors, conduct and oppositional defiant disorder, and aggressive interactions with peers (Voisin & Hong, 2012). These externalizing behaviors have been empirically linked to bullying as well. Research also indicates that witnessing family violence may be more detrimental, or psychologically damaging to younger children versus youth. In response to witnessing family violence, younger boys are more likely to display externalizing behaviors, such as aggression and violent behaviors, while younger girls have a greater tendency to exhibit internalizing behaviors such as depression and low self-esteem. However, there is an indication that these gender patterns may reverse as children reach adolescence.

At this point, it is unclear how race/ethnicity may affect the link between family violence and externalizing behaviors among young children. Some studies have found that minority children exhibit fewer internalizing behaviors than whites in response to witnessing family violence. However, studies have found that externalizing behaviors, such as aggression, are higher among racial minorities than white peers that have witnessed family violence. Studies have also found that Latino children are less likely to have lower externalizing symptoms than whites (Voisin & Hong, 2012).

It is contended that parenting practices can either buffer or exacerbate the effects of family violence in children's behavior. For example, it has been found that high maternal control and authority mitigates the effects of family violence on children's externalizing behaviors. However, parents in a violent home may be unable to adequately nurture, support, monitor and discipline their children; and this in turn may further have an effect on externalizing and antisocial behaviors, and on oppositional defiant behaviors—behaviors associated with later violent behavior (Voisin & Hong, 2012).

Parental Mental Health

Parental mental health and substance use are associated with children's externalizing behaviors. A review of 193 studies examining the effects of maternal depression on children's outcomes, found that maternal depressions is associated with children's internalizing (e.g., depressive mood, anxiety, or social withdrawal) and externalizing behaviors (e.g., aggression, conduct problems or delinquency, oppositional defiant disorder diagnosis) and general psychopathology (combined internal and external behaviors) (Goodman et al., 2011). Interestingly, the degree of the association between maternal depression and children's externalizing and internalizing behaviors was small. Goodman and colleagues (2011) found that the age of the child was an important factor in the association

between maternal depression and child outcomes. The younger the child (ages ranged from zero to 20 years; mean age 7.13 years), the stronger the association between children's externalizing and internalizing behaviors. Perhaps parenting practices of depressed mothers may contribute to the relationship between maternal depression and children's externalizing and internalizing as well. A review of 46 studies examining maternal depression and mothers' parenting behaviors, found that depressed mothers were more likely to practice negative parenting behaviors, such as hostile or coercive behaviors in the form of threatening gestures, negative facial expressions, negative expression of anger, and intrusiveness. Therefore, while maternal depression seems to directly affect children's negative behaviors, it is also associated with parenting practices that parents employ. These parenting practices in turn may have an effect on children's behaviors.

In sum, this section emphasizes the importance of family behaviors and relationships in increasing the risk of violent behaviors, and the precursors of violence, among children. It has identified child and youth outcomes (e.g., externalizing, antisocial, and oppositional defiant behaviors) that can lead to adult criminality and violence and the familial factors that research finds important in these negative outcomes. While these factors (e.g., parent-child relationships, parenting practices, family violence, and parental mental health) are discussed separately, it is important to note that the literature consistently reports that the presence of multiple factors at different developmental periods can incrementally increase the risk for the development of adult criminality (Leschied et al., 2008). These assertions corroborate with others who state that a constellation of factors and the intensity of any of these factors may increase the accuracy of prediction of a given outcome (Bonta & Andrews, 2007)—in this case, violence.

The Role of Parents in Violence Prevention

Few violence prevention interventions actively enlist parents as a key group to prevent violence. Violence prevention interventions commonly include schools and law enforcement agencies without including parents as agents of prevention. When parents are included, they are typically included in indicated programs, once youth have already entered the justice system. As the literature review suggests above, there are family process characteristics that are directly associated with the precursors of violent behaviors, (1) including parent-child relationships, (2) parenting practices, and (3) parental mental health and drug use. As the literature review suggests above, violence prevention interventions could start as early as when parents and infants are first developing a bond.

Parents are perceived to be their children's first *"teachers,"* and research finds that they are influential in the development of violence; thus, parents are an important group to enlist not only to prevent violence, but also to promote positive child well-being. From this perspective, violence prevention interventions would put a damper on violence by supporting parents to promote and foster healthy developmental trajectories in their children to become productive citizens. Recently, prevention experts have emphasized the importance of combining both prevention and promotion approaches (O'Connell, Boat, & Warner, 2009) . For example, experts in youth development have argued that youth development is the most effective strategy to prevent youth problems as opposed to focusing on squelching problems and perceiving them as barriers to youth development (see National Research Council and Institute of Medicine of the National Academies, 2012). In the context of violence prevention, parents could be supported to promote healthy child development.

Worldwide Alternatives to ViolencE (WAVE)

Based in Croydon, England, Worldwide Alternatives to ViolencE (WAVE) is dedicated to preventing violence, based on a socio-biological theory of violence that posits an intersection of a propensity to be violent and a trigger. WAVE asserts that a major factor in the development of the propensity to be violent is a lack of empathy; although all babies are born with the capacity for empathy, whether this quality develops depends on what they learn from observing adult reactions to the pain or suffering of others. WAVE therefore believes that ensuring that babies are cared for in a sensitive, nurturing way that develops empathy would prevent much violence, as well as poor mental and physical health, addictions, low educational and employment achievements, welfare dependency, poverty, and homelessness.

WAVE believes that:

1. Violence is a behavior that is caused and can be prevented;
2. The propensity for violence develops mainly through maltreatment before age 3. Family influence is the key factor.
3. Environment plays a major role in shaping the structure of the infant brain – and determining propensity.
4. Maltreatment of children has long-term consequences for their mental and physical health.
5. Attunement (or connectedness) between parent and infant produces the key antidote to internal propensity.
6. Prevention does work and there is a powerful economic case for it.

To prevent violence, WAVE recommends that:

1. Children be taught how to parent in a non-violent manner while still in school.
2. All first-time parents be given supportive coaching, during pregnancy, on how to 'attune/connect' with babies.
3. Regular monitoring visits by specially trained Health Visitors for all babies in 'at risk' families be provided.
4. PTSD be recognized and treated in violent individuals.

For further information. visit http://www.wavetrust.org/

In addition to a promotion intervention, a three-level prevention intervention approach (see National Research Council and Institute of Medicine of the National Academies, 2012) would be targeted to parents. The first level would be a universal preventive intervention targeted to parents who may not necessarily be at risk for developing unhealthy parent-child relationships, implementing negative parenting practices, or even child maltreatment, but who can benefit from developing their parenting skills. The second level would be a selective preventive intervention targeted to parents whose children are at risk for maltreatment and/or of developing aggressive behaviors, conduct disorder, or violent behaviors. The third level would include indicated preventive interventions targeted to high-risk parents who have a history of child maltreatment and are displaying mental health and substance use problems. These are discussed below.

Parents as promoters of healthy child outcomes

According to the National Research Council and Institute of Medicine of the National Academies (2012), promotion interventions are generally targeted to the general public with the intention to support individuals develop to their highest potential and gain the ability to overcome challenges. With regard to promoting child well-being in a violence prevention initiative, a promotion intervention would generally emphasize how parents can foster positive child development and would target all parents with varying levels of abilities and circumstances that foster child well-being. This intervention would bring public awareness and information about effective parenting practices that promote positive parent-child relationships and would shape positive public opinion about obtaining parenting information.

Another example of a public campaign of this sort for parents of young children comes from the Parenting Success Network in the state of Oregon. The objectives of this public awareness campaign are to change social norms about parenting education, deliver positive parenting messages, and create easy access to all parenting resources through print and social media, website information, billboards, parenting education services for parents and parenting educators. Zero to Three and the Johnson & Johnson Pediatric Institute have also created a campaign, the *Magic of Everyday Moments National Education Campaign*, which helps parents understand and gain ideas for how to use everyday moments to promote children's social, emotional, and intellectual development. Parenting information is disseminated through print and their website, as well as resources for other parenting information.

A public awareness campaign would also shape negative attitudes about child maltreatment. The *Winds of Change Campaign* in the state of Florida is a good example of such a campaign. The goals of this campaign is to bring public awareness of the campaign, increase knowledge and use of community supports for parents, increase knowledge of child development and of effective, age-appropriate discipline strategies, and increase public knowledge that child abuse and neglect can be prevented before it occurs (Ferris, 2009). An evaluation of the Winds of Change campaign revealed that parents exposed to campaign materials were more knowledgeable about child development issues and where to obtain parenting resources, reported positive attitudes (e.g. learning positive parenting skills can prevent child abuse and neglect), motivation and behaviors to prevent child maltreatment (W.D. Evans et al., 2012) compared to a group of parents not exposed to the campaign. Interestingly, this evaluation found that Latino parents who were exposed to the awareness campaign were more likely to know where to get information about parenting in the community, were more willing to call someone when they are upset with their child compared to other parents regardless of campaign exposure.

Universal preventive interventions

As discussed above, the first level of a violence prevention intervention would be a universal preventive intervention targeted to parents who may not have been identified at risk for developing unhealthy parent-child relationships, implementing negative parenting practices or even child maltreatment, but can benefit from developing their parenting skills. This type of preventive intervention would target parents of young children in early childhood education programs, health clinics, and other community organizations to provide parents with skills and parenting practices that foster positive parent-child relationships and effective discipline tactics. Because parents need to adapt parenting practices as their children age, it is imperative that parents have the capacity and skills to adjust their parenting with their child's age. Thus, a universal preventive intervention for

parents with older children would also be necessary as children move from preschool to school age and adolescence.

One promising example of a universal preventive intervention is the *Adults and Children Together (ACT) Raising Safe Kids*, developed and coordinated by the American Psychological Association. This program targets groups of parents and caregivers of children from birth to age 8, regardless of risk levels of child maltreatment, to help parents develop positive parenting skills. More specifically, this intervention galvanizes communities and educates parents about positive and effective parenting practices to improve their parenting skills to prevent child maltreatment and protect children from the traumatic effects of violence. In a randomized evaluation study of the program, Portwood and colleagues (Portwood et al., 2011), found that ACT is a promising universal intervention. More specifically, parents in the ACT program reported lower levels of harsh verbal and physical parenting, higher levels of nurturing parenting practices, had more developmentally appropriate expectations of their child, and reported a slight increase in social support from friends compared to the group of parents who were not assigned to the program. The ACT and comparison groups did not have different perceptions on conflict level of their family, though. The majority of participants in this evaluation were Latino (70.7 percent), thus these findings may not be generalizable to other populations, but it is important to note that there were no ethnic/racial group differences in any of the findings highlighted above.

A more common universal preventive intervention, intended to reduce child maltreatment and children's behavioral problems is embedded within the *Positive Parenting Program (Triple P).* The Triple P program is a multi-level intervention, in which parents with children ages 0-12 learn positive and supportive parenting practices while normalizing parents who need to develop their parenting skills and providing appropriate tools and knowledge to raise healthy children. The first level of Triple P uses media campaigns targeting parents seeking parenting help, which normalizes seeking parenting help and markets the other levels of the program (e.g., parent training seminars). The subsequent levels of this program will be described below as they fall within the selective and indicated interventions discussed below. Triple P has been evaluated before, but the evaluations will be discussed below as those findings are not exclusive to this first level of the program; they evaluate the whole program.

The Nurse-Family Partnership (NFP) is a home visiting-based program intended to promote the well-being of first-time, low-income mothers and their children. Services such as home visiting by trained nurses to provide parenting education, referrals to community resources, and the development of within-family resources are provided through the child's second birthday. Experimental evaluations from three very different communities (Elmira, NY; Memphis and Denver) have looked at a variety of maternal and child outcomes, including behaviors during pregnancy (e.g., use of services, health behaviors), birth outcomes, parenting behaviors, and subsequent pregnancies. Participation in NFP has positively impacted mothers during pregnancy (e.g., nutrition, use of WIC, number of cigarettes smoked) and the home environment (e.g., the number of hazards observed in the home, frequency of punishment, behaviors that stimulate language skills, and the number of stimulating toys). Mothers who received nurse home visits also reported fewer subsequent pregnancies and a longer time between pregnancies. Several impacts for the child have been positive, such as arrests at age 19. Participants with fewer economic, social and emotional resources have shown more positive impacts than those with more resources. The children of low-income, unmarried mothers had fewer behavioral problems. In addition, subgroup positive impacts have been found for birth weight and preterm birth for mothers under 17 and those who reported smoking five or more cigarettes a day during pregnancy. Children who were

born to mothers with low psychological resources in the nurse-visited group had higher levels of language development and higher mental development. When mothers' had low psychological resources, children in the nurse-visited condition had more supportive home environments, more developed language, better executive functioning, and less negative researcher-rated behavior.

Selective preventive interventions

The second level includes selective preventive interventions targeted to parents *at risk* for developing negative parent-child relationships, ineffective parenting strategies, and maltreating their offspring. Because research finds that children from homes experiencing family violence are likely to display externalizing behaviors, conduct and oppositional defiant disorder, and aggressive interactions with peers and that parenting practices can either buffer the effects of family violence, the non-abusive parent can benefit from selective preventive parenting interventions. Thus, a selective preventive intervention could target parents from families affected by domestic violence to gain effective parenting skills to buffer the negative effects of this kind of violence on children. Additionally, this intervention could educate non-abusive parents about the sequel and effects of family violence and provide resources and support for parents parenting a child who has history witnessing family violence.

One example of this kind is the *Child-Parent Psychotherapy (CPP)*, which targets families and their young children (3-5 years) experiencing domestic violence. The objective of this program is to help parents and children improve their relationship, which may have been affected by family violence, and address the traumatic experience of domestic violence. In a randomized evaluation of the CPP, it was found that children exposed to the CPP had fewer behavioral problems and Traumatic Stress Disorder symptoms compared with children in the control group, and these effects were sustained over a six-month period. Similarly, mothers exposed to the program, showed fewer Post Traumatic Stress Disorder avoidant symptoms after the program and six months after, they showed a fewer distressed symptoms compared to mothers not exposed to CPP (Lieberman, Ghosh Ippen, & Van Horn, 2006; Lieberman, Van Horn, & Ghosh Ippen, 2005).

Another example of a program targeting children and parents affected by domestic violence is the *Kids Club & Moms Empowerment* program, which serves 6-12 year old children and their mothers. The *Kids Club* helps children affected by family violence to learn to cope with this situation so that they *do not* internalize or externalize their experience and develop accepting attitudes about violence. The *Moms Empowerment* component helps mothers be effective parents even under this stressful situation, learn ways to reduce the stress that these family situations brings to them while getting support and resources.

Indicated Preventive Interventions

The third level of the violence preventive intervention would include preventive interventions targeted to high-risk parents who have a history of ineffective parenting and child maltreatment, and/or who have children who have problems with aggression, conduct disorder, or are violent. The objective of these programs would be to provide parents with effective parenting strategies to manage their children's behavior and to work closely with other professionals. *Parent–Child Interaction Therapy* (*PCIT*) is an example of these kinds of interventions. The *PCIT* was originally developed for parents of young and school-age children (three-twelve years of age) to reduce oppositional and defiant behaviors. This program was recently adapted to target families with a history of physical

abuse for parents to learn effective and appropriate parenting practices, and improve parent-child interactions and relationships.

As noted, research clearly documents the negative consequences for children's development of the trauma experienced by children who have been abused (Institute of Medicine and National Research Council, 2014). A child who has experienced traumatic stress is often less able or unable to self-regulate, and may experience feelings of traumatic stress at times when the child is not actually threatened, for example, at school or in a safe residential placement. A promising approach for children afflicted with trauma is represented by Trauma Systems Therapy, or TST (Saxe, Ellis, and Kaplow, 2007) . TST was developed by a neuroscientist and a psychologist and seeks to help children identify the trauma they have experienced and the triggers that elicit reminders of the trauma they experienced and to provide the needed services and therapy needed by the child to develop and maintain self-regulation. (Child Trends is currently conducting a demonstration evaluation of TST in a child welfare organization, KVC, which is working to train all relevant staff in the precepts and procedures of TST.)

Summary: Parenting

- Family behaviors and relationships are important in increasing both the risk of violent behaviors and the precursors of violence among children.
- A three-level prevention intervention approach would help parents acquire the necessary skills not only to stop violence, but also to foster children's positive trajectories that promote positive child well-being.
    - A universal preventive intervention targeted to all parents to develop their parenting skills would provide them with effective parenting strategies to foster healthy child development.
    - A selective preventive intervention for parents whose children are at risk for maltreatment and/or of developing the precursors of violent behaviors would decrease the chances of the children further developing these negative behaviors.
    - An indicated preventive intervention targeted to parents with a history of child maltreatment, mental health, and/or substance use problems would provide parents effective parenting strategies and an opportunity to seek services for their own mental health or substance use challenges.

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 researched. 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 (Univeristy 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; Hawe 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 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 incentives 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-Gun n, 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, Bangalaore (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 **a**nd 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 CeasesFire 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) *Acompaname* 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. *Mobylize!*, 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 effectiv e 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 - Reccomended 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 Futures[1], a national health care promotion and

[1] Bright Futures is a national health care promotion and disease prevention initiative of the American Academy of Pediatricians 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).

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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.

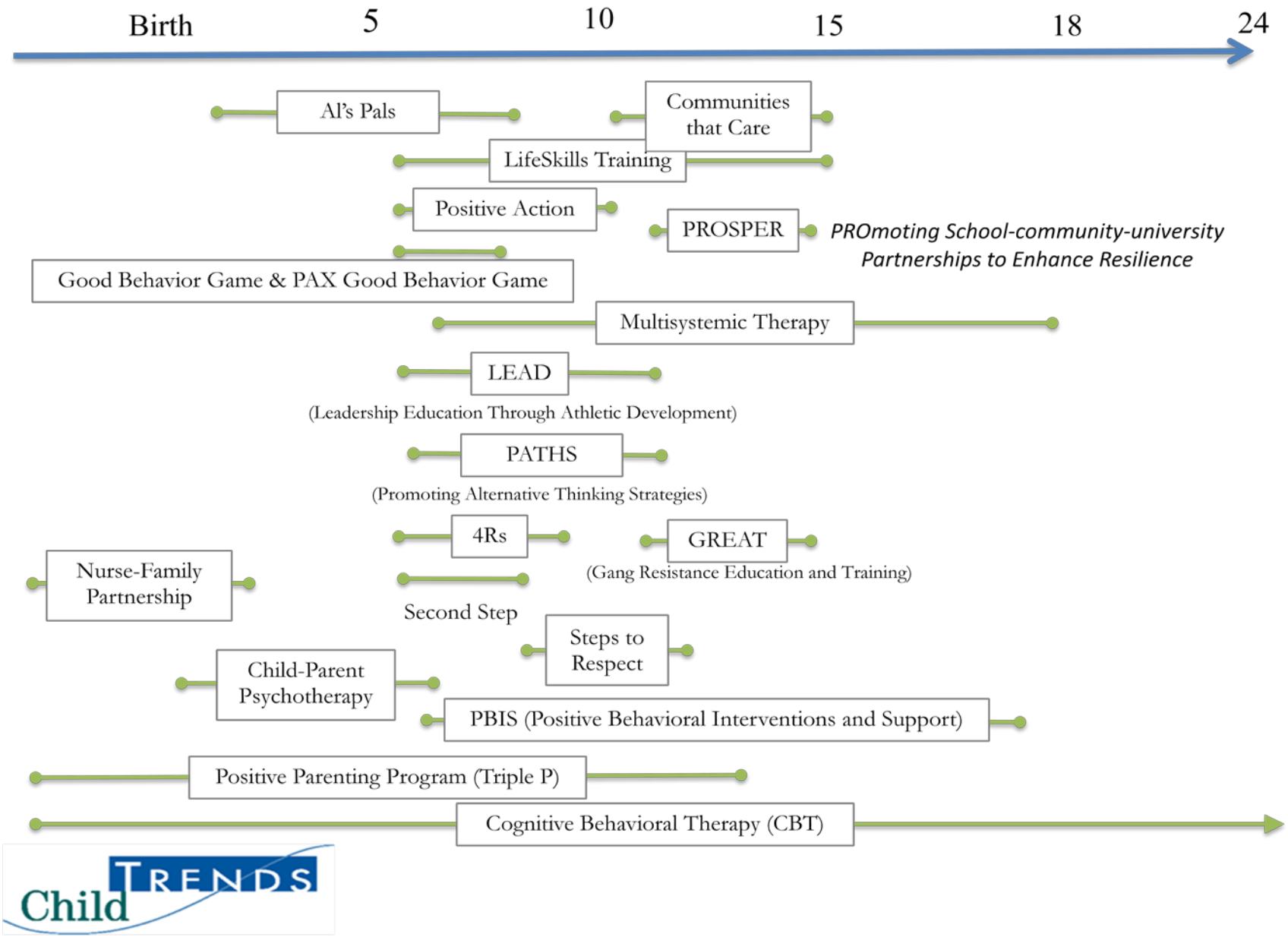
It is also possible to assess the association over time of state-level policies and outcomes measured at the state level. Child Trends has built a database of state-level policy and contextual factors to support such research. While a better understanding of the cross-sectional correlates of violence 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 (Lifecourse 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

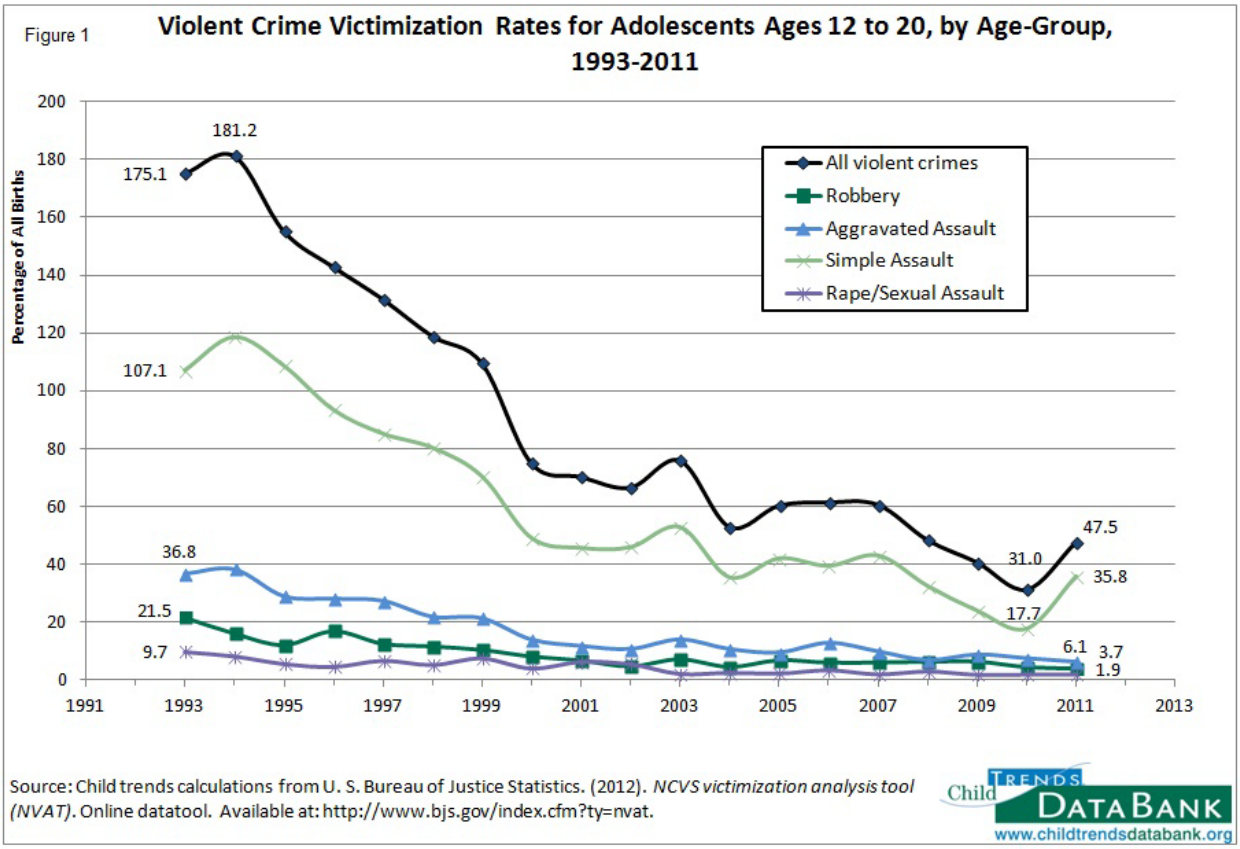
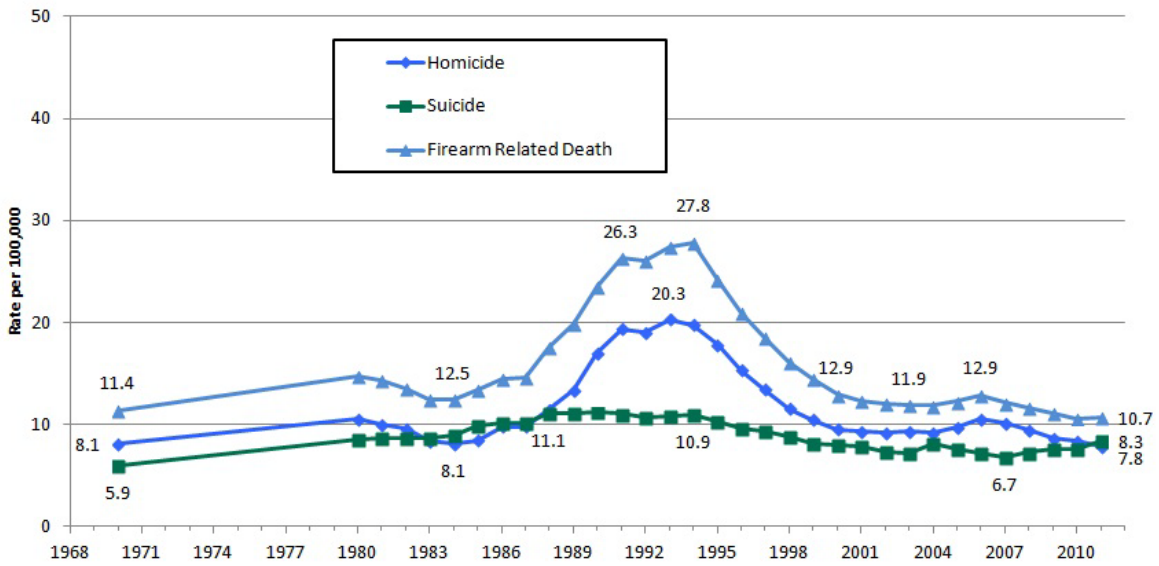


Figure 1

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

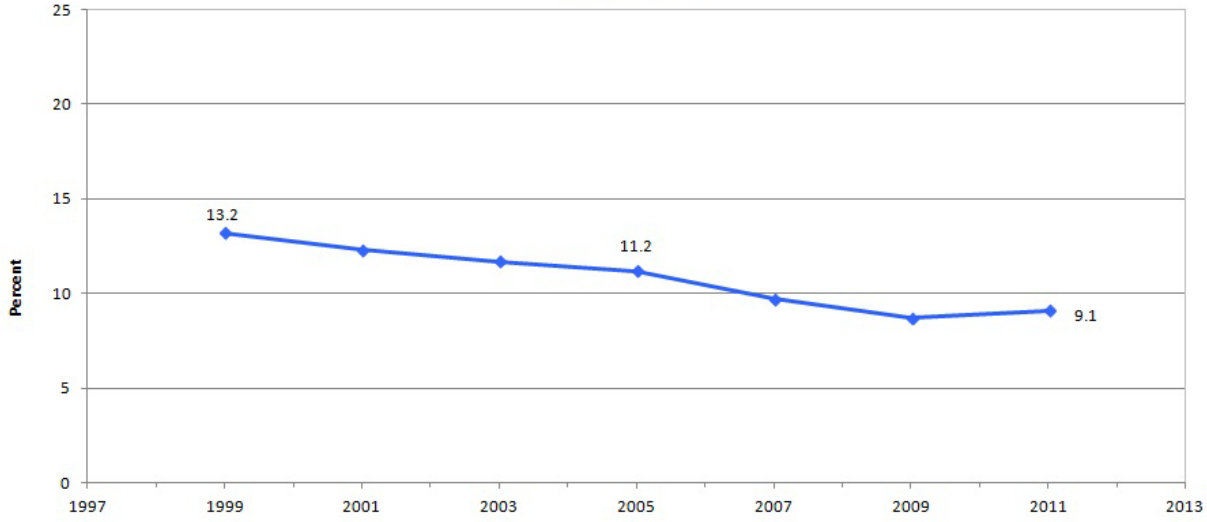


Data for 1970-1980: National Center for Health Statistics. (2002) *Health United States, 2002 With Chartbook on Trends in the Health of Americans*. National Center for Health Statistics. Tables 46, 47, and 48. Data for 1995-2011: Centers for Disease Control and Prevention. *Web-based Injury Statistics 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 DATABANK

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



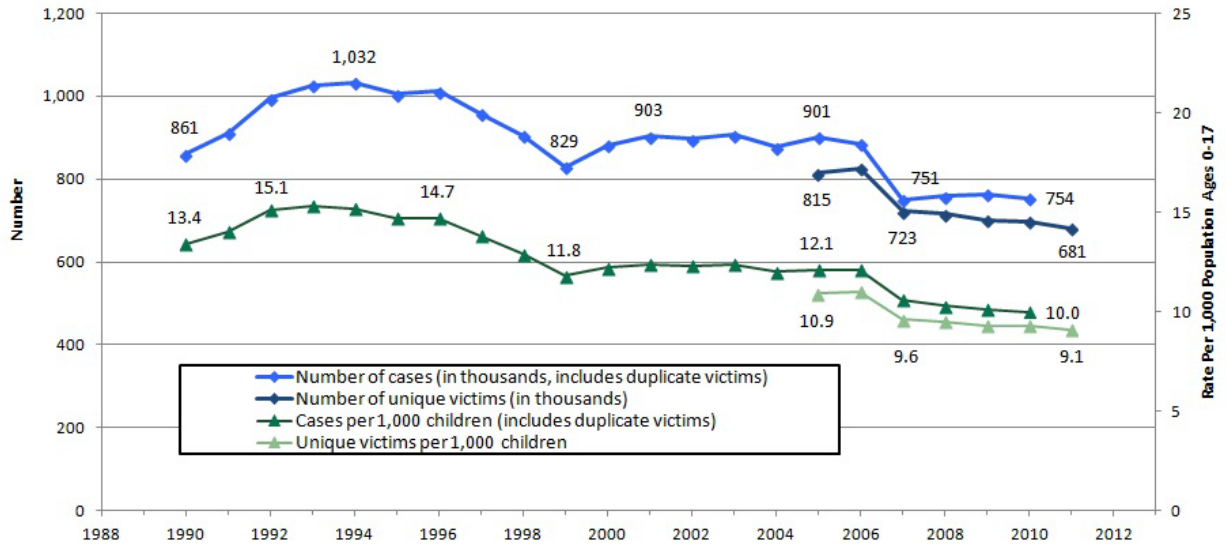
Note: After 2005, the reference period was the school year, instead of the previous 6 months. Cognitive testing showed that estimates from 2007 and 2009 are comparable to previous years. "At school" means in the school building, on school property, on a school bus, or going to and from school.

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

Child TRENDS DATABANK
www.childtrendsdatabank.org

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

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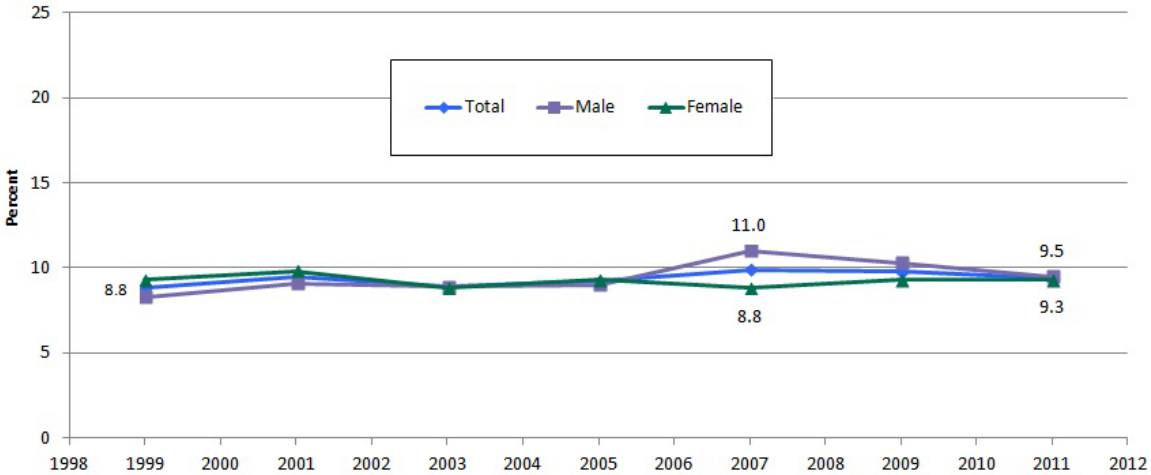
Figure 1

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.

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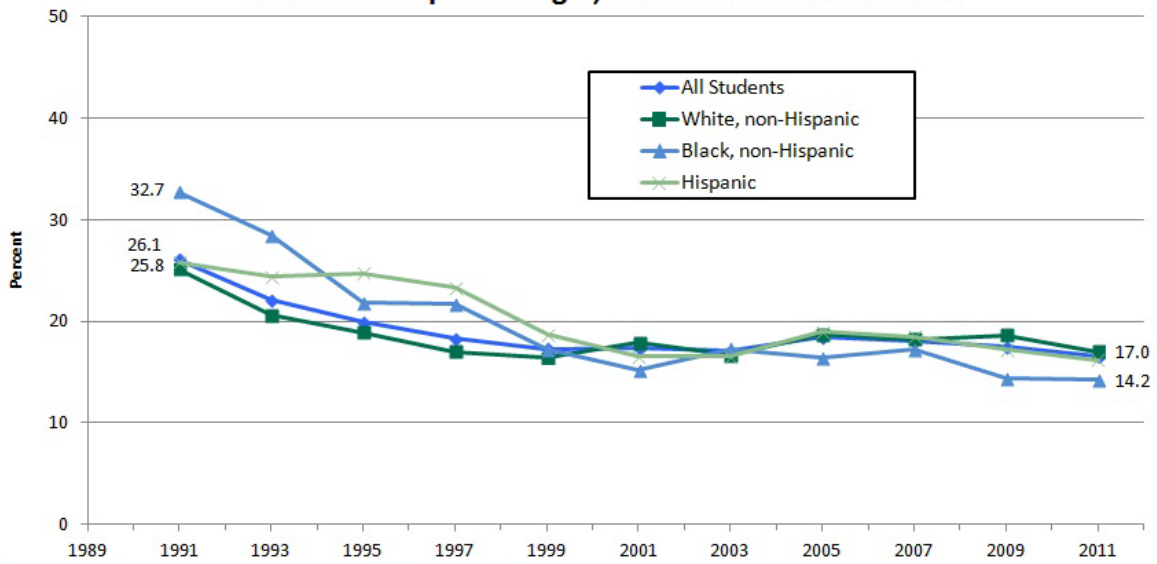
Figure 1

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.

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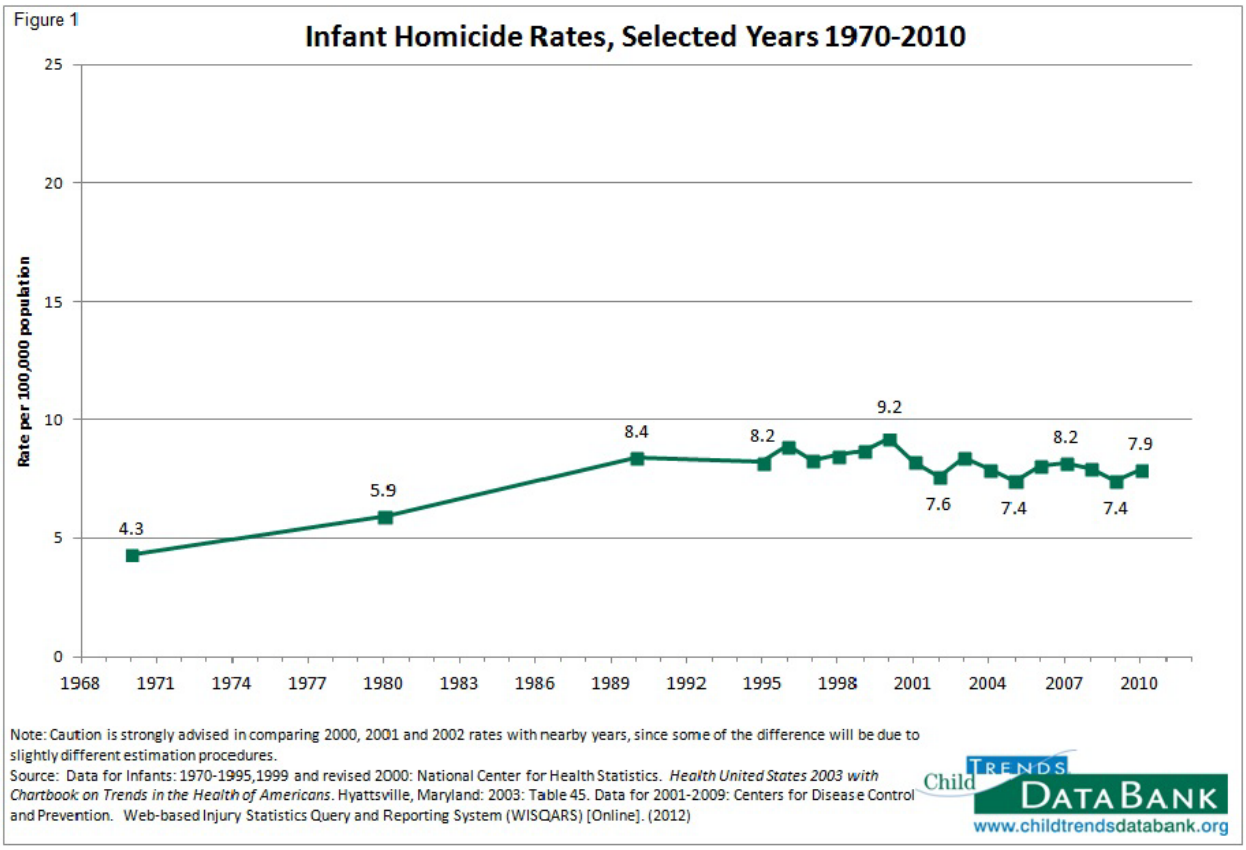
Figure 1
Infant Homicide Rates, Selected Years 1970-2010
Rate per 100,000 population
25
20
15
10
5
0
4.3
5.9
8.4
8.2
9.2
7.6
7.4
8.2
7.4
7.9
1968
1971
1974
1977
1980
1983
1986
1989
1992
1995
1998
2001
2004
2007
2010
Note: Caution is strongly advised in comparing 2000, 2001 and 2002 rates with nearby 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)
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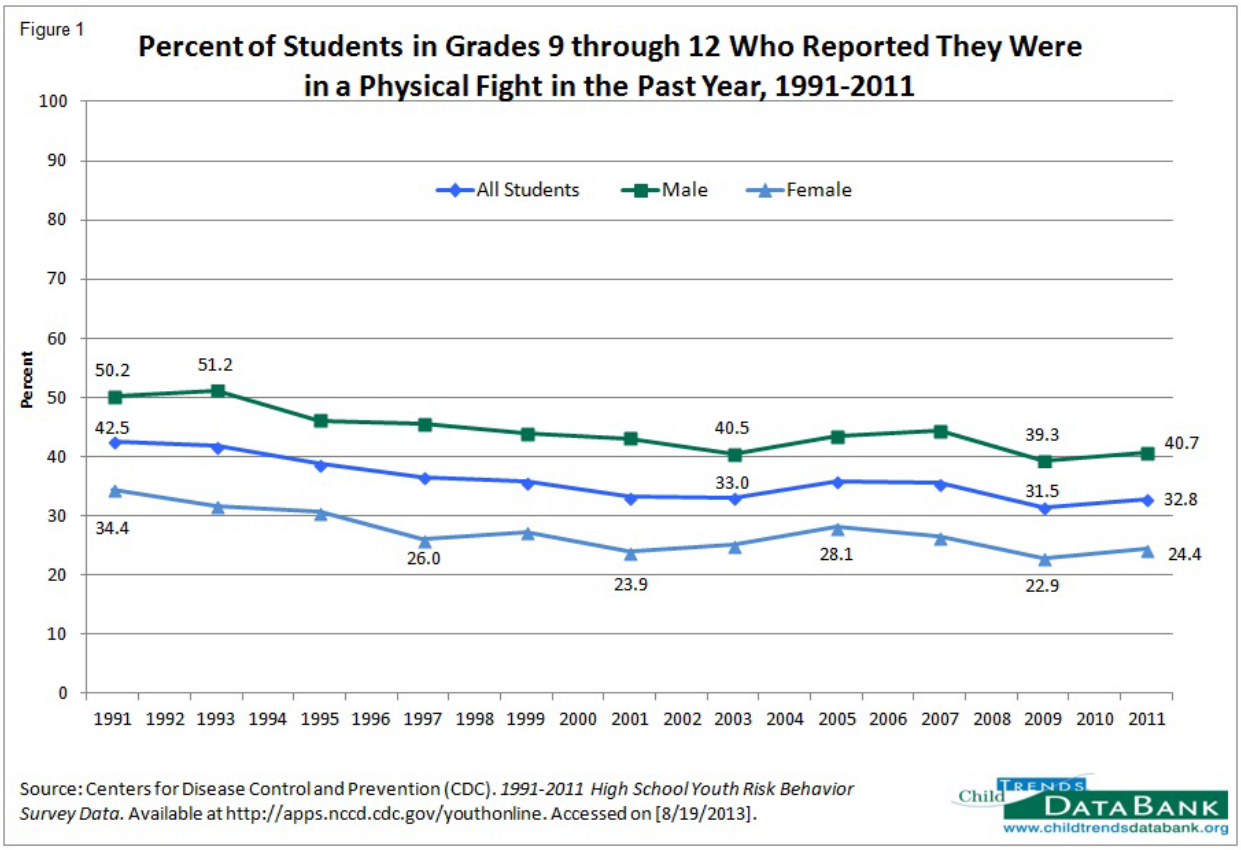
Figure 1
Percent of Students in Grades 9 through 12 Who Reported They Were in a Physical Fight in the Past Year, 1991-2011
All Students
Male
Female
Percent
100
90
80
70
60
50
40
30
20
10
0
50.2
51.2
40.5
39.3
40.7
42.5
33.0
31.5
32.8
34.4
26.0
23.9
28.1
22.9
24.4
1991 1992 1993 1994 1995 1996 1997 1998 1999 2000 2001 2002 2003 2004 2005 2006 2007 2008 2009 2010 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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