

Centers for Disease Control and Prevention's Expert Panel on Protective Factors for Youth Violence Perpetration Background and Overview

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Abstract: The CDC Expert Panel on Protective Factors for Youth Violence Perpetration was convened to review and advance the status of etiologic and prevention research on direct protective and buffering protective factors for youth violence perpetration. The current paper introduces Phase One of the panel's work, which focuses on direct protective factors and includes the papers in this supplement to the *American Journal of Preventive Medicine*. This paper provides the context for the panel's work, describes its practical and theoretic importance, and summarizes why independently defined direct protective factors and risk factors are important for the advancement of our understanding of youth violence and its prevention. Lastly, this paper briefly describes the organization of the work of the panel as well as the research products that comprise the contents of the supplement. (Am J Prev Med 2012;43(2S1):S1–S7) Published by Elsevier Inc. on behalf of American Journal of Preventive Medicine

Introduction

The idea that we can create experiences and environments that promote nonviolence among youth or protect youth in high-risk environments from engaging in violence is not new. Communities, nongovernmental agencies, and researchers have advocated this possibility for several decades. The concepts of resilience, positive youth development, and community assets have all been advanced to capture this notion. The scientific foundation for this idea, however, remains very limited.

Given this scientific gap, the CDC Expert Panel on Protective Factors for Youth Violence Perpetration was convened to help address gaps in our understanding of protective factors by (1) clarifying unresolved definitional and analytic issues on protective factors; (2) reviewing the state of evidence regarding the factors that appropriately can be labeled as direct protective, buffering protective, or both (definitions for these terms are provided in subsequent paper sections); (3) carrying out

new analyses of major longitudinal surveys of youth to discover new knowledge about protective factors; and (4) assessing the implications of research identifying protective factors for prevention programs, policies, and future research. As an important first step in disseminating the results of the panel's efforts, this supplement presents work on direct protective factors, highlighting attempts to identify factors that exhibit mostly direct protective effects, mostly risk effects, or linear effects. Presentations of work regarding buffering protective factors are forthcoming.

To provide background information and context for the papers^{1–7} in this supplement to the *American Journal of Preventive Medicine*, the current paper first provides the context for the panel's work and describes its practical and theoretic importance. The paper then summarizes reasons why independently defined direct protective and risk factors are important for the advancement of our understanding of youth violence prevention. Lastly, the establishment of the Expert Panel on Protective Factors for Youth Violence Perpetration is described and the influences, perspectives, and points of interest that shaped the panel's efforts are presented.

Study Context and Research

The most recent mortality data for the U.S. show that homicide continues to be the second-leading cause of death for youth aged 15–24 years, and the leading cause of

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death for African-American youth.⁸ In addition, data on nonfatal, assault-related injuries indicate that youth also continue to exhibit the highest age-specific rates of non-fatal, assault-related injuries.⁹ Data from the National Youth Risk Behavior Survey indicate that, in 2009, 18% of U.S. high school-aged students carried weapons on at least 1 day during the month preceding the survey, and 32% had been in a physical fight one or more times during the preceding year.¹⁰

Youth violence is a major public health and social problem for many communities across this country. Youth violence is a type of Interpersonal Violence, which involves “the intentional use of physical force or power, threatened or actual, against another person or against a group or community that results in or has a high likelihood of resulting in injury, death, psychological harm, maldevelopment, or deprivation.”¹¹ It includes all acts of interpersonal violence, whether public or private, reactive (in response to previous events such as provocation) or proactive (instrumental for or anticipating more self-serving outcomes), or criminal or noncriminal. Efforts addressing youth violence typically focus on interpersonal violence involving people between the ages of 10 and 24 years, although patterns of youth violence can begin in early childhood.

This effort focuses primarily on understanding youth perpetration of serious violence. Acts classified as serious violence represent substantial departures from and violations of societal norms. Serious violence is one of the greatest threats to the health, well-being, and productive potential of youth. Its use needlessly sacrifices or substantially impairs the physical, emotional, or social lives of its victims and perpetrators. Its presence greatly undermines the culture and socioeconomic viability of affected families and communities. Information about factors related to youth perpetration of serious violence may help increase the effectiveness of strategies to reduce its prevalence and consequences.

Youth violence is preventable and can be addressed using the tools and insights of public health. Etiologic research on the factors that influence health outcomes is a cornerstone of public health. Such research provides a theoretically and scientifically grounded approach to youth violence prevention, involving the identification of modifiable factors that influence the likelihood of youth violence perpetration. The results from etiologic studies can guide the development of prevention strategies that reduce or eliminate risk factors and add or enhance protective factors.

Such research has focused on two broad classes of factors: risk factors and protective factors. Risk factors have been defined consistently as elements that predict an increased probability of a person acting violently,¹² or

conditions, influences, experiences, or occurrences that increase the chances that a particular event (victimization) or behavior (perpetration) will occur. In their broadest conception, protective factors include attributes, characteristics, or elements that decrease the likelihood that violence will be perpetrated. Whether any of these factors have causal effects is not always clear and needs investigation.^{12,13}

Most research on factors predicting youth violence has focused on risk factors.¹⁴⁻¹⁷ The discrepancy in attention to negative versus positive influences is attributable to the longstanding focus in health research on deficits in competencies and mental health and the removal of risk-enhancing conditions. This also has been true in violence prevention research, which largely has concentrated on addressing deficits, asocial exposures, and corruptive influences. A consequence of this is that the literature on factors predicting youth violence often has the untested assumption that most variables associated with violence have undesirable risk effects rather than desirable effects, such as decreasing the probability of violence.

For example, it is often stated that poor parental supervision predicts a high probability of violence; however, the statement that good supervision predicts a low probability of violence is less common.¹⁸ Similarly, many criminologists and educators infer that physical punishment elicits violence in youth¹⁹ rather than that avoiding physical punishment (by using nonphysical sanctions) decreases the probability of violence.¹⁸ However, only empirical tests can determine whether one effect prevails for a given factor or whether both risk and protective effects apply.

Much of the original literature on positive factors that predict desirable outcomes is dominated by attempts to define protective factors that explain prosocial outcomes in youth who are exposed to multiple risk factors.²⁰⁻²² Often the processes of overcoming the negative effects of risk exposure, coping successfully with traumatic experiences, and avoiding the negative trajectories associated with risks involved in this are called “resilience” and authors write about the “buffering” effects of protective factors in the presence of risk factors.^{20,23} In fact, these are interaction effects where a decreased risk for youth violence perpetration is achieved by moderating the influence of risk factors.¹² The study of this type of protective process is important in the area of violence, particularly to describe and explain why some violent youth may desist from violence later and to inform positive actions that can be taken to bolster protective influences.²⁴

Previously there was considerable ambiguity in the use of the word *protective*. Some researchers used it to reference a positive main effect (the opposite of a risk effect), whereas others used it in the interactive sense specified

above. To encourage conceptual clarity and specificity, in this paper, positive main effects are labeled “direct protective” and interactive effects “buffering protective.” Variables displaying the former effects are, accordingly, labeled direct protective factors. It is acknowledged that one factor may exert both direct and buffering protective effects. However, identifying these types of factors was not a goal of the effort reported here.

Within the panel’s work, direct protective factors specifically were defined as factors that precede youth violence perpetration and predict a low probability of youth violence perpetration in the general population. Direct protective factors are associated with desirable outcomes or what Luthar et al.²⁵ call “direct ameliorative effects” (such as low violence or nonviolence). In other words, they may directly prevent or reduce the probability of violent behaviors and outcomes in a manner that is not contingent on the level of risk faced.

Here, direct protective factors will include factors that explain why some individuals do not engage in violence in the first place.²⁶⁻³⁴ Others have used various descriptive labels for types of factors with direct protective effects, including “promotive,” “positive,” “compensatory,” “deterrent,” “suppressive,” “preventive,” and “inhibitory” factors, but here the choice was made to make limiting distinctions between the types of effects. This decision was based on a desire to shift emphasis from describing the expected effects of a factor to the specific mechanisms through which protection is afforded during particular periods of development. Each effect suggests different conditions in which and precise ways that specific protective factors might be used to prevent, limit, or halt violence perpetration. Earlier works using previous labels are cited to establish connections to the intellectual history of work to better understand and characterize the different effects of protective factors.

Direct protective factors can be best identified through the study of main effects (irrespective of the number or type of risk factors), in a manner similar to the way that the main effects of risk factors have been studied for decades—irrespective of the number and type of protective factors. There are relatively few studies that attempt to explain why most individuals never commit violence.^{22,29} Further, Werner, in her review of longitudinal studies of resilience, concluded that “there has been a lively debate . . . whether the factors that contribute to resilience among children exposed to high levels of childhood adversity are equally beneficial for those not exposed to these adversities.” However, this debate is limited because studies examining both direct protective and buffering protective factors are scarce.

Findings from studies including both sets of factors will have implications for the specificity of efforts to pre-

vent violence among youth facing different levels of risk. Information on factors displaying buffering protective effects will be most effective when used to inform the development of preventive measures for use among youth whose risk of becoming violent is greater than average (i.e., selective strategies). In contrast, information on factors exhibiting direct protective effects is best utilized in designing measures to prevent the onset of violence among youth facing equal effects across the risk spectrum (i.e., universal prevention strategies). Such information may enable the creation of prevention strategies that are relevant and beneficial to general populations of youth.

In addition, advances in knowledge about protective factors should be welcomed in the applied fields of risk assessment. A key aspect of risk assessment is the allocation of scarce resources to prevention measures with a focus on the highest-risk groups. Risk assessments in the form of screening devices, however, have depended solely on the presence of risk factors.^{30,31} In many situations, some postulated risk factors may not function as actual (i.e., significant) sources of risk in specific populations. Inclusion of such factors in risk indices reduces the overall accuracy of risk assessments. Information on postulated risk factors that actually exhibit direct protective effects or a mixture of risk and direct protective effects may thus yield improvements in the sensitivity and specificity of tools for risk assessment.

Direct Protective Factors As Conceptually Distinct from Risk Factors

An important problem defining violence prevention research is that the study of positive factors often has relied on researchers’ labeling of factors as positive rather than empirically demonstrating that the factors predicted desirable outcomes.^{14,22,32} Here, it is maintained that the “proof of the pudding” is not what one might think or assume about direct protective factors but what is firmly established by means of empirical analyses and replication of results across different samples. To achieve this type of proof, longitudinal studies are needed to prospectively measure potential direct protective factors that might predict nonviolence or low levels of violent behavior at a later period in time.

Another problem occurs if researchers define direct protective factors as simply the reverse of risk factors. For example, if a risk factor is defined as a score on a variable that exceeds the median value, it may follow that a direct protective factor is defined as a score below the median. This formulation of risk and direct protective factors is ipsative in that knowledge of one completely assumes knowledge of the other. If one knows the risk factor, there

is no new knowledge conveyed by the direct protective factor because the absence of a risk factor is seen as equivalent to the presence of a direct protective factor. Using this logic, one could conclude that if a direct protective effect is simply the opposite of a risk effect and the underlying variable is merely linearly related to youth violence then little new knowledge is gained by identifying both risk and direct protective factors.

It is possible and essential to conceptualize *and* define risk and direct protective factors in a manner that allows them to occur independently. Consistent with Rutter,³³ Loeber and Farrington,² and others, the authors embrace and support the use of a conception of risk factors and protective factors as conceptually distinct rather than as opposite ends of a single dimension. Protective factors are here considered to be independent constructs that may display their own main or direct effects on behavior but that also may buffer or moderate the relationship between risk factors and behavior. Moreover, this position is taken a step further with the argument that empirically evaluating and validating the form of the relationship between possible predictors and violence outcomes is crucial. If a variable of interest is nonlinearly related to youth violence, there can be a direct protective effect in the absence of a corresponding risk effect (and vice versa) and much more can be learned by studying risk and direct protective effects/factors than originally believed.

The identification of which factors mostly exhibit direct protective effects, risk effects, or both effects has major implications for the understanding of processes of violence and nonviolence. In one scenario, results from analyses in this issue may confirm the commonly held assumption that putative risk factors prevail and that there are few direct protective factors. In another scenario, the results may show that risk and direct protective effects occur in about equal proportions. In yet a third scenario, research may show that direct protective effects outnumber risk effects. It is likely that the processes that operate between predictors and outcomes are vastly different in each of these scenarios. In the first scenario, violence would largely result from the presence of multiple negative factors in children's lives. In the second scenario, violence would depend on the presence of multiple negative events in children's lives in conjunction with a lack of multiple positive events. In the third scenario, desirable events would be the dominant forces associated with low rates of violence.

Another issue is the modifiability of the factors observed and the public support for efforts to address these factors. Research on direct protective factors may result in the identification of factors that are more readily modifiable. Prevention strategies that focus on positive messages (e.g., strengths that need to be enhanced) may be

more likely to be supported than negative messages that focus on deficits to be corrected.

The empirical evidence presented in this supplement shows that certain variables labeled as "risk" factors are not predictive of high likelihood of violence, but instead exhibit direct protective effects associated with low likelihood of violence. This implies that screening devices are likely to become more efficient when based on both risk and direct protective factors. It also implies that the effectiveness of prevention strategies may be improved by basing them on evidence regarding the true (versus hypothesized) behavior of potential risk or direct protective factors in the populations, settings, or contexts of interest.

Background of This Initiative

The CDC's Division of Violence Prevention (DVP) within the National Center for Injury Prevention and Control (NCIPC) provides leadership in the primary prevention of violence and its consequences, including intimate partner violence, sexual violence, suicide, elder maltreatment, child maltreatment, and youth violence. To address these forms of violence, the DVP plans, directs, conducts, and supports projects that span the public health continuum, including monitoring violence and its consequences, identifying modifiable risk and protective factors, developing and evaluating prevention programs and policies, and disseminating prevention information and strategies. The DVP also helps state and local partners plan, implement, and evaluate prevention strategies. The development of the CDC Expert Panel on Protective Factors for Youth Violence Perpetration reflects, in general, DVP's interest in enhancing knowledge regarding the causes and correlates of youth violence and the development of prevention strategies; and specifically, a NCIPC research priority to "Identify modifiable factors that prevent youth from becoming victims or perpetrators of violence."³⁴

To help inform the field of youth violence prevention and to guide potential next steps for this research priority, DVP convened a panel of experts to provide an integrative state-of-the-art review focused on the status of research on direct protective factors and to consider options for novel analyses of existing data to clarify the form and functions of potential protective factors. The Expert Panel was formally assembled in November 2006 and again in July and November of 2007. It is composed of youth violence researchers from the University of Illinois at Chicago, the University of Minnesota, the University of Pittsburgh, the University of Cambridge, and the University of Washington. The panel's expertise spans the disciplines of criminology, psychology, law, public health, statistics, and epidemiology. Its members have a history of

Table 1. Analytic research groups, data sources, and selected characteristics

| | Research group (investigators) | | | |
|--|---|---|---|--|
| | The University of Illinois at Chicago (Henry, Tolan, Gorman-Smith, and Schoeny) | The University of Minnesota (Bernat, Oaks, and Resnick) | The University of Pittsburgh (Loeber, Pardini, Farrington, and Stouthamer-Loeber) | The University of Washington (Herrenkohl, Lee, and Hawkins) |
| Source of data for analyses | The Multisite Violence Prevention Project | The National Longitudinal Study of Adolescent Health | The Pittsburgh Youth Study | The Seattle Social Development Project |
| Design (all longitudinal) | 2 × 2 cluster-randomized, experimental design where an equal number of schools within each site (except for the Georgia site) were randomly assigned to four conditions: universal intervention; selective intervention; combined (universal and selective) intervention; and no-intervention control | Multistage stratified cluster design used to attain a nationally representative sample of U.S. adolescents; multiple waves of data from participants were obtained including: an in-school survey (1994; Wave I); and in-home surveys (1995 Wave I; 1996 Wave II; 2001 Wave III). | Random sample of boys in the first, fourth and seventh grades of the Pittsburgh, Pennsylvania, public school system; sample selected in two phases. Approximately 750 subjects constituting Cohort 1 were acquired during 1987; and 1800 subjects acquired in 1988 constituting Cohort 2. Screening procedures were used to select 1500 of these 2550 students for follow-up. | Eighteen elementary schools serving high-crime neighborhoods of Seattle were assigned nonrandomly to conditions and all consenting 5th-grade students in the 18 schools participated in the study. |
| Sample size(s) for data source (Wave I only) | <i>n</i> =5581 | Wave I: <i>n</i> =90,118 (in-school survey), <i>n</i> =20,745 (in-home survey) | <i>n</i> =1517 | <i>n</i> =808 |
| Setting | Chicago IL; Durham NC; Northeastern GA; and Richmond VA | U.S. population-based sample | Pittsburgh PA | Seattle WA |
| Sample type | High- and low-risk | Entire population | High- and low-risk | High-risk |
| Developmental periods covered | Preteen, early adolescence | Preteen, adolescence, young adulthood | Childhood, preteen years, adolescence | Preteen, adolescence, young adulthood, adulthood |
| Grade levels captured | 6th through 8th | 7th through 12th | 7th through 12th | 5th through 12th |
| Gender composition | 49% male | Wave II: 55.1% female Wave III: 58.0% female | 100% male | 51% male |
| Racial/ethnic makeup | White or other=18% Black or African American=48% Hispanic=23% Multiracial=8% | Wave I: Only white=62% Black or African American=23% American-Indian or Native American=1% Asian or Pacific-Islander=7% Other=7% | White non-Hispanic=50% Black non-Hispanic=50% | White=47% Black=22% Asian=22% Native American=5% |
| Source of measures | Students, teachers, family, and archival | Students, school administrators (Waves I and II only); parents (Wave I only); romantic partners (Wave III only); contextual data sources (e.g., census data) | Students, teachers, parents | Students, teachers, parents, school records |
| Number of waves available | 3 | 3 | 17 | 13 |
| Intervention administered | Yes—The GREAT Schools and Families Program | No | No | Yes—Seattle Social Development Project, SOAR (Skills, Opportunities and Recognition), Raising Healthy Children |

research and scholarship in the study of aggressive behavior, delinquency, adolescent risk behavior and youth violence, culminating in the production of seminal work on risk and protective factors. Under the direction of Rolf Loeber, PhD, and David P. Farrington, PhD, the Expert Panel collaborated with DVP staff to coordinate and develop review and analytic research tasks. The products of those efforts—a literature review and four analytic papers^{3–6}—are presented in this supplement.

Supplement Overview

The first paper generated by the panel presents the conceptual and scientific foundation for work to advance knowledge regarding protective factors for youth violence.¹ Lösel and Farrington's¹ state-of-the-art review specifies trends, issues, and inconsistencies in the definition, measurement, and analysis of direct protective and buffering protective effects. The review also provides evidence linking scholarship on direct and buffering protective factors to prevention development and evaluation efforts. To characterize and synthesize science regarding direct and buffering protective factors (with the latter factors given primary attention in this issue), Lösel and Farrington addressed three research questions:

1. What findings, practices, and approaches are revealed in a review of the existing scholarship on direct protective and buffering protective factors?
2. What conceptual and methodological issues arise in research on direct protective and buffering protective factors?
3. What conclusions can be drawn when evidence regarding direct protective and buffering protective factors is synthesized?

The product of their efforts enables comprehension of the numerous and diverse ways that direct protective and buffering protective factors have been conceived and studied.

The supplement's second paper provides a concise synopsis regarding the methods used to align and carry out the analytic work. In this paper, Loeber and Farrington² re-establish connections to the intellectual context of the panel's efforts, presenting rationales for its specific focus. They then offer information regarding the series of analytic methods and procedures used by each team responsible for the analytic work to maximize the panel's replication objectives.

Analytic studies conducted by panel members provide new empirical results on the associations between potential direct protective factors and indicators of youth violence (selected characteristics regarding these studies are provided in Table 1). These studies were designed to assess replicability across differing samples and methods

by encouraging consistency in the variables and analytic approaches used across databases. The panelists utilized existing longitudinal, multilevel data with variables that could demonstrate risk or direct protective effects in relation to youth violence. These analyses focused on the following questions:

1. Which predictor variables are linearly versus nonlinearly related to youth violence?
2. Of the factors showing nonlinear associations with youth violence, which factors exhibit only direct protective effects versus risk effects?
3. Similarly, which factors exhibit both risk and direct protective effects?
4. What direct protective associations appear in results for multiple studies, and how do these results compare and contrast?

Four papers^{3–6} provide details on each study's contexts, designs, samples/populations, measures, analyses, and results. They also include information on the specific steps taken to accommodate the panel's guiding parameters and analytic plans, including any necessary deviations from these plans. The papers conclude with study-specific findings and a brief discussion of lessons learned as a result of the effort. The final paper by Hall et al.⁷ summarizes and synthesizes information reported by the integrative review and analytic research groups. They call specific attention to the implications of the panel's work for public health theory, research, practice, and policy.

Youth violence is an addressable, preventable challenge. The current effort harnessed and focused the energies and resources of a diverse group of experts toward the goals of identifying and better understanding direct protective and buffering protective factors for youth violence. It is hoped that the findings recorded in this supplement will advance knowledge about the etiology of youth violence and inform strategies for primary prevention.

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