

Two sides of the coin:

Multi-level prevention and intervention to reduce youth violent behavior

by

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The nightly news carried the report. The young man had been convicted of a heinous murder. He had carjacked the woman, raped her, set her on fire and shot her. Afterwards, he took off with her car, credit cards and money. Before sentencing by the judge, the young man said, "It was a simple mistake." All who saw it were incredulous.

A number of court documents shows the path of this young man from a terrified preschooler to a remorseless killer. No intervention, not even the harshest of penalties, with this young man at this point will restore the life of the murdered woman, ease the suffering of her family or reduce the likelihood that some other preschooler alive now will walk a different path. A wholly different approach will be required to restore true safety in our communities.

A new approach involves more than treatment or incarceration for children who manifest serious symptoms of anti-social behavior. It will require more than public demonstrations about the rise of violence or political speeches about the decline of civic spirit. Nothing less than recreating a vision of our homes, neighborhoods and communities using what we know to be true with a strong commitment to testing and refining our methods will move us forward. The work will not be easy. The approach will involve looking at both sides of the coin of prevention and intervention, carefully monitoring cost-effectiveness and monitoring for side-effects.

In medicine, one might refer to this as a public-health model. In finance, one might refer to this as a good investment strategy. In marketing, one might refer to synergy. All of these ideas could be combined for social and economic profit. This chapter outlines the integrative strategy for a sound public policy toward prevention and treatment of violent behavior among youth.

Monitoring trends

A proverb appears in a tattered travel guide: "Unless you change direction, you are likely to arrive at where you are going." Public policy toward issues of youth violence must be shaped by data, which unfortunately are ominous. The FBI forecasts a doubling of homicides by youth in 2004. Consider

other data: children 10 years of age and younger who commit major non-violent offenses are certain to commit violent crime in adolescence. This fact is worrisome because younger and younger children have been committing major offenses, and the cohort of children under 10 years of age increased from 1980 to 1995 by 5 million. Our own research data show that 12% of the intermediate students in our long-term research study report having been threatened with a gun or knife on campus in the past week (Embry et al., 1996)—something unimaginable a decade ago. Monitoring early trends could help avert future tragedies.

Projects like the Youth Risk Study by the US Centers for Disease Control and Prevention provide estimates of homicide risk. Standardized monitoring tools like this must be extended down to the earliest years of children's lives for effective public policy. Here are some examples of sound monitoring of trends that would help:

1. Stratified random sampling of blood from umbilical cords for fetal exposure to substances that adversely affect the development of a child. This would provide a better picture of morbidity data on prenatal exposure to drugs so that schools and communities could better plan early intervention and public-school programs, which might alter the trajectory of problem behaviors.
2. Stratified random sampling of children's behavior in preschool settings. Patterns of behavior in the preschool years predict adjustment and success in elementary school, which in turn, forecast successful child development and reduction of juvenile problems (Zigler, Taussig, & Black, 1992).
3. Stratified random sampling of children's behavior in elementary settings. Youth violent crime and substance abuse can be substantially predicted from elementary-school student behavior (e.g., Tremblay, Masse, Perron, & Leblanc, 1992).

Two sides of the coin: a false dichotomy

The prevention and intervention literature on youth violence often read as if written from different sides of a divided Germany—with the same anachronistic sense. The intervention literature speaks about psychotropic medication, family systems, diagnostic labels, genetic influence on receptor sites and psychometric measures. The prevention literature speaks of self-esteem, neighborhoods, bad peers, resiliency, school failure, conflict resolution or anger management, and mentoring. These approaches create an illusion of unrelated causation; the domains are really closely related.

Early Prevention

Wilson and Herrnstein (1985, p. 283), after reviewing research of the early 1980s, concluded about the developmental timing of programs to reduce juvenile crime:

“This emphasis (on junior and senior high programs) is understandable...but since we know that the high rate, serious offender is likely to begin his career at an early age, we must wonder whether it might not be better to devise school programs to reduce the onset of delinquent inclinations among very young children than to organize such programs to cope with delinquent behavior among teen-age children.”

A large percentage of boys come into contact with law enforcement during adolescence for what might be called “delinquent” behavior. While these legal contacts may cause angst at home, the contacts typically do not result in a life-long pattern. Children who are “early starters,” however, are much more worrisome. Nevertheless, there are problems of “false positives” with early prediction. Consider this illustration. Presume that modern social science can predict future criminals with about 80% accuracy, which is not far off the mark. Assume that about 2% of any cohort of children will develop serious anti-social behaviors. That is, 200 per 10,000 are likely to become violent criminals. An 80%

accurate prediction will yield 160 true positives, which subtracted from 10,000 yields 9,840. If the prediction error is 20%, then there are a total of 1,968 “false positives” total. The fact that there are 10 times the number of “false positives” underscores why an intervention must be universal. Even if the prediction were 95% correct, the number of false positives would outweigh true positives. This problem of “false positives” makes universal primary prevention programs appealing, especially given what we and some of our other colleagues have found in the original 13 studies funded on violence prevention by the US Centers for Disease Control.

Chemical imbalance

The brain produces many chemicals in response to external and internal stimuli. A number of neurotransmitters are related to human aggression: serotonin, dopamine and norepinephrine. While medications affect these neurotransmitters, there is an intriguing question for both prevention and intervention: how do those chemical changes happen in the first place?

The short answer is social interaction. Praise, touch, rewards and lack of threat dramatically affect brain chemistry. Carlson (1994) provides an elegant overview of the physiology of behavior. A person who has just earned a primary reward, a social reward and recognition releases dopamine in the nucleus accumbens and ventral tegmental areas—which communicate with regions in the mesocortex, cortex and frontal lobes forming the basis for long-term planning. Touch, affection and positive status release serotonin molecules, which inhibit offensive attacks by stimulating serotonergic axons in the forebrain and amygdala. Threats and aversive events (both conditioned and unconditioned) elevate norepinephrine activity from the brain stem, amygdala, and forebrain. The arousal makes the person more vigilant and defensive.

Repeated stimulation of these pathways cause physical changes in the structure of the brain, moving the behavior from a state to a trait (Perry et al., 1996). Chronic, uncontrollable exposure to the threats and aggression tend to release beta-endorphins, the natural painkillers that are like morphine in the body. This “numbs” the person to the

pain to self and others, which helps young children especially survive in a hostile world. The chronic release of the stress hormones tend to accelerate sexual maturity in girls (pubic hair as early as 5-6 years) and increase muscle mass in young men because of higher levels of testosterone—a mechanism that may help explain the puzzling but reliable findings of relationship between body shape and criminality from research in the 1930s (See Wilson & Herrnstein, 1985, for a thoughtful summary of that work). Young women also show changes, with early sexual maturity and behavior associated with exposure to human violence (e.g., Stevens-Simon, & McAnarney, 1994). Sexual behavior in both males and females follows from the elevated hormones and early onset of puberty. Negative social interactions are not the only means of stimulating these pathways. Alcohol, nicotine, cocaine and other drugs directly stimulate the dopamine (reinforcement) systems. Indeed, the longitudinal research on children's exposure to threats and low rates of reinforcement as predictors of both substance abuse and anti-social behavior make considerable sense as one understands the mechanics of the brain.

All of these facts also challenge the nature of our diagnostic labels. Extensive behavioral literature makes it clear that children with behavioral disorders require higher levels of reinforcement. Some behavior theorists have even suggested relabeling these symptoms as “reinforcement deficiency syndrome” (Blum et al., 1995).

Inference for prevention, intervention and policy. A discussion of the biology of human behavior can become a false dichotomy of biology versus therapy. What is clear from the experimental literature is that the biological changes are largely in response to the environment that humans inhabit. This suggests that interventions for youth violence (biological or not) will be more successful if social environments are altered to: increase social connections and status (increased serotonin), increase rewards and praise for behavior (increased dopamine) and reduce threats and aversive stimuli (reduced norepinephrine).

Genes or Jeans:

Genetics Versus Environment

Neurotransmitters are created by genetics and respond to the social environment. Mounting evidence shows that genetics play a major role in the development of anti-social behavior (Plomin, Nitz, and Rowe, 1990). For example, dopamine is involved in the behavioral precursors of aggression and learning. Some evidence now suggests that individuals with a certain form of a gene for dopamine₂ receptor sites (e.g., Noble, 1996) have an increased risk of alcoholism and anti-social behavior.

A genetic difference in no way implies something bad. Quite to the contrary, the more common the genetic expression, the greater the chances are that the trait is likely to have emerged as a result of selective advantage. We may just not “get” why or how it has been valuable over time. An excellent example is sickle-cell anemia. While sickle-cell anemia is a horrible disease in contemporary times, the gene for it had powerful survival advantages for thousands of years—enabling more of the people who carried that gene to survive in an environment with a particularly virulent form of malaria. People without that gene tended to die before child-bearing age.

One can likewise imagine that there are powerful adaptive advantages for needing a higher signal-to-noise ratio of dopamine in many human economies. For example, one is far more likely to take major risks for survival in marginal economies—thereby increasing the chances that one might survive to raise the next generation. This risk taking could easily come in the form of more aggressive hunting of large-animals such as bison and mammoths who would have represented a very advantageous resource for some of our ancestors. The cognitive-behavioral profile that would be advantageous in that hunting situation could read like many “symptoms” of behavioral disorders—attention to novel stimuli (distractibility), hypermobility, intense focus under threat, extroversion, risk-taking for physical challenges. These behaviors, however, would have less advantage in other economies. In agricultural economies, there would be a whole different interplay of cognitive-behavioral attributes conferring

survival advantage. For example, the first agriculturists made significant use of preserving carbohydrate (caloric surplus) via fermentation of grain into beer. If 1/3 of the everyday calories came from alcohol as was apparently so, it takes little imagination to see the adaptations that might have occurred among such people for greater alcohol tolerance—not to mention a whole host of other cognitive-behavioral strategies that might be adaptive for such settings. No apparent selective advantage is apparent for hunters and gatherers to have developed a tolerance for alcohol—a dopamine mimic.

Another misapprehension needs to be clarified. Many genes are not absolute, following the inexorable math of Mendellian proportions. Many genes are expressed in response to environmental events, which scientists refer to as polymorphic diversity. Such genes may switch on or off, depending on the environment the organism inhabits. This is a most clever trick of genetics and life—of obvious survival value. All of this makes environment even more important—not less, Plomin, Nitz and Rowe, 1990). What seems to turn genes off or on? Steroids are most certainly involved, as they have the capacity to pass through the cell membrane (since the cell wall is a lipid and steroids are fat-soluble) and lock onto receptor sites on the nucleus—now directing the machinery of DNA and RNA. External events, perceived by the brain and given interpretation by social experience if the events are the result of learning, are the artificers of steroid release. Thus, the environment matters even more—especially for events that directly affect survival such as violence.

Inference for prevention, intervention and policy. Something that happens one out of a thousand or less in the population is fundamentally a “disorder.” If something happens at a high frequency such as ADHD (2%–5% or so of the population according to some estimates), chances are that it is not a disease but some kind of an adaptive response in human history or linked to an adaptive response. Post-traumatic stress reactions are an excellent case in point. Diagnostic conventions make it a disorder, yet the changes in both behavior and physiology reliably occur after exposure to serious human violence. When one reads the

anthropological literature, humans have preyed on other humans with surprising frequency—with 25% to 35% of young men killed by homicide (e.g., Daly & Wilson, 1988), a rate similar to that found in many of our worst areas of modern society, such as war, strife and some inner-city areas. It is nearly impossible to imagine that over the course of thousands of years that adaptations might not have evolved to deal with such circumstances—and that such adaptations might, in fact, be polymorphic or “turn on” in response to events since cooperation and collaboration also have very high survival value among humans. Using this perspective, called evolutionary psychology, issues that co-vary with youth violence make a great deal more sense such as teen pregnancy, early sexual maturity, multiple children by different fathers, high reactivity to threats and insults. It also becomes possible to see why commonly proposed solutions are almost certainly not likely to work—as their very implementation engages ancient evolutionary solutions. A major consideration for policy makers is that a given policy may actually work against the flow or go with the flow of mother nature.

A good school

Schools often have primary, secondary and tertiary prevention programs for violent behavior among children and youth. Generally speaking, programs at different “doses” are dichotomous and in theoretical or scientific disagreement—making the probability of generalization and maintenance dubious. Playground aggression, a key predictor of problem behavior is a case in point. Peer mediation strategies are often used as a primary prevention strategy in which students are trained to notice incidents of bad behavior (most often among troubled children). Similarly, playground monitors are often trained and required under their job descriptions to reprimand and “punish” bad behavior. For serious at-risk children, either strategy is iatrogenic and contraindicated. For extremely well-behaved children, such strategies cause no harm and probably do repress negative behavior. Both strategies, however, are fundamentally attention to inappropriate, anti-social behavior among at-risk children. Scientific studies suggest that such attention to inappropriate behaviors will rapidly accelerate its frequency and severity

(e.g., Walker, 1995). This is worrisome since some evidence suggests that anti-social behavior is quite serious on playgrounds (e.g., Embry et al., 1996).

What could be done differently? A theoretically sound and consistent approach would take a different strategy: (1) set up activities that decrease the probability of anti-social behavior in the first instance, (2) assure mastery of playground social skills that reduce risk of rejection; (3) provide frequent rewards for pro-social behavior on the playground by peers and supervising adults; (4) encourage staged levels of response-cost and time out for anti-social behavior; (5) include strategies to reduce accidental reinforcement of anti-social behavior; and (6) provide generalization of reward and activity to home and after-school settings. Fortunately, this model precisely describes the strategies inherent in promising primary prevention models (e.g., MacPherson et al., 1974; Murphy et al., 1983; Dougherty et al., 1985; Embry et al., 1996) and well-established more intensive protocols for secondary and tertiary prevention (e.g., Walker et al., 1995; Walker, 1995). This model makes it easy to up the “dose” level of the interventions across the board—assuring greater probability of implementation, efficacy and generalization by combining the procedures that are theoretically and practically continuous.

Another core issue to consider is the association between academic failure, anti-social behavior and substance abuse. Schools often have (1) a substance-abuse program, (2) a dropout prevention program, and (3) a violence prevention program. This kind of compartmentalization erases the extremely well-documented links across all domains of problem behavior. For example, Shedler and Block (1990) have shown that the pattern of parent-child interaction at age 7 that predict substance abuse at age 18 are fundamentally the same dynamics as the cycle of coercion articulated by Patterson and colleagues for the etiology of anti-social behavior (Patterson, DeBaryshe and Ramsey 1989). Without understanding the underlying etiology of substance abuse, anti-social behavior and school leaving, most prevention and intervention programs in school settings are likely to be less successful when measured rigorously.

A positive school climate can have substantial positive effects on reductions in substance abuse, anti-social behavior and school leaving (e.g., Mayer et al., 1983; Rutter, 1979; and Gottfredsen, 1988). There are a number of characteristics of schools and school-based programs that seem to be critical for both prevention and intervention success, which can be manipulated in “dose” levels (e.g., Rutter, 1979; Mayer et al., 1983; Walker et al., 1995; Embry, 1997; Solomon & Whaler, 1973; Masden, Becker, & Thomas, 1968; Rapport et al., 1982):

1. Encouraging high levels of praise by teachers and school staff for attention to task and academic productivity, especially for high-risk children.
2. Engaging in differential attention from adults to other students and other behavior (DRO = differential reinforcement of other behavior) when a child has minor misbehavior rather than attention to children’s negative behavior.
3. Using daily group activity rewards for teams or classes rather than weekly, monthly or semesterly rewards based on individual points.
4. Encouraging daily, self-monitoring and posting of academic and behavioral competencies.
5. Setting up frequent stimulus control (antecedent) tools that “channel” probability of positive behavior and reduce “down time” during transitions.
6. Using every day symbolic models to illustrate pro-social behaviors being mastered.
7. Using cognitive-behavioral questions and techniques (“Socratic methods”) to foster mastery of emotionally charged events.
8. Sending home daily positive home notes to student’s families for positive behavior and achievement, linked to rewards at home.
9. Creating many opportunities for students to hold positions of responsibility.
10. Using quick daily response-cost, cognitive mediation and over-

correction procedures for acts of negative behavior instead of delayed consequences such as referrals to the office or high-intensity verbal or physical reprimands.

Inference for prevention, intervention and policy. The findings to date about schools suggests that they need to move away from the notion of violence prevention and intervention as a 12-week course or unit. The research also suggests that the current rush to implement various conflict and peer mediation strategies are unlikely to fulfill their promise of a dramatic reduction in youth violence. Effective prevention and intervention programs in school settings are most likely to be effective if the programs are deeply embedded in the daily social interactions of students, staff and families and alters the school climate or culture.

Good versus bad neighborhood

Neighborhoods make a difference in children's developmental outcome. Rates of unemployment, overcrowding, high mobility and poor housing are certainly related in increased rates of juvenile delinquency, a topic of many reviews (e.g., Yoshikawa, 1994; Mulvey, Arthur & Reppucci, 1993; Wilson & Herrnstein, 1985). In neighborhoods, where there is considerable violence, children and youth are highly likely to witness serious aggression at school (e.g., Singer et al., 1995). Such exposure tends to kindle the symptoms of post-traumatic stress disorder (e.g., Garbarino, Dubrow, Kostelny & Pardo, 1992). Typical post-traumatic stress reactions include: irritability, hypervigilance, exaggerated startle response, and physiological reactivity (Piacente, 1986; Burrowes, Hales, & Arrington, 1988) and elevated heart rate. It is rather easy to conclude that such neighborhoods will need some kind programs to reduce the prospect of youth violence. What might that be? Experimental evidence is thin, but a number of ideas make sense.

1. Minimize focus on fear and threat stimuli and increase focus on activities that create a sense of orderliness and even beauty. In high-risk areas, over focus on the threat increases fear and reluctance to act, furthering the perception of the community norm of violence. "Crime

Watch" activities can heighten rather than lessen the symptoms of PTSD, by making people highly suspicious of all residents.

2. Engage in highly frequent public rituals of the positive community-wide norm. Public events help create a climate of belonging and acceptable standards of behavior, helping counteract the effects of a negative community norm. Whenever possible, the children in the neighborhood need to work along side the adults. In Chicago, the "Neighborhood Authority"—a self-help group—has weekly awards to members of the community who have helped make the neighborhood more peaceful. In Arizona, an elementary school involved with the author's research project has adopted neighborhood businesses to display students' artwork. These businesses report significant declines in vandalism and petty crime.
3. Focus efforts on enhancing parenting competence and child monitoring. Parenting effectiveness exists clearly in a social context, with social isolation rapidly accelerating the deviance and resistance to improvements (Wahler & Dumas, 1984). Door-to-door activities, phone calls, local business promotions, and plays by youth about positive behaviors to be copied can mobilize people to begin speaking a common language and using a common set of tools, reducing social isolation and domestic violence.
4. Remove environmental sources of repeated confrontations and insults. Nisbett (1993) argues convincingly that insults are a core trigger for homicides and aggression. In high-density areas, there are more likely to be ongoing sources of traded insults because of environmental provocations. Code enforcement of housing violations, nuisance problems and illegal activity can be a powerful tool to reduce these likely sources of conflict.

5. Provide effective tools for community policing. Many of the most at-risk areas have residents who fear reprisal for informing the police. The use of police scanners by criminals make such fears more real, and Wilson and Herrnstein (1985) cite evidence to suggest those fears of retaliation are well founded. In one community, involved with the first author's work, the city government gave cell phones, beepers and other tools to community people to reach police quickly and with less risk. In this same community, the police give frequent rewards to children and youth for positive behavior. The "Boston Strategy" of having probation officers ride with police at night is another strategy.

Inference for prevention, intervention and policy. Effective tools used in neighborhoods have the same underlying structure as ones to be used in schools. In general, an effective neighborhood program to prevent youth violence would: provide extensive positive models instead of negative models, provide high rates of positive feedback for imitation, and offer many cues, prompts, and tools that facilitate generalization across time, people, behaviors, and settings. Punishing consequences work best when tightly targeted (e.g. violation of probation curfew) rather than when applied broadly (e.g. curfews for all juveniles).

A dysfunctional versus a functional family

Without doubt, family interaction styles contribute to the etiology of both substance abuse and youth crime. In general, parents who are hostile, rejecting and unresponsive, infrequently reinforce positive behavior, and inadvertently reinforce "bad" behavior. (e.g., Shedler & Block, 1990; Patterson et al., 1989). Children in such situations mirror and show their own negative interactions by interpreting negative cues as hostile, are afraid of being deprived, have poor verbal skills, show little warmth, and lack resiliency in many situations. Describing such behaviors and changing these behaviors are not the same thing. Another whole body of research has profound implications for prevention,

intervention and social policy. Consider some important findings:

General Parent-Training Courses or Interventions. Many schools, agencies, clinics and law-enforcement program offer or promote parent education programs as a presumed prevention strategy. Such programs might or might not have beneficial effects. General parent-training courses are largely ineffective in changing behavior of children and parents, especially when precise, well designed behavioral measures are used in the home setting as opposed to satisfaction ratings by parents (e.g., Embry, 1984; Gordon et al, 1988; Dembo et al., 1985). Parent-training groups, courses and programs have better impact and long-term impact when they are nested in the context of a much more comprehensive intervention that involves direct child training and community or neighborhood development (e.g., Webster-Stratton, 1990), or Multi-Systemic Therapy - MST. Home-based feedback, based on therapist's ability to reliably code parent-child interactions, is necessary for changing the behavior of more difficult families (e.g., Isaacs, Embry and Baer, 1982), which is consistent with the findings that client families have difficulty applying learning other than to immediate circumstances when actually prompted (Smith et al., 1985). Without home-based feedback and data collection, or nested interventions, at least 50% of all high-risk families drop out from parent training (e.g., Mulvey et al., 1993).

Other Parent-Training or Intervention Models. Both community psychology research and anthropology provide some insights for alternative methods of increasing effective parenting: 1) Social isolation negatively affects treatment outcome, and group support increases positive outcome (e.g., Wahler & Dumas, 1984); and 2) certain times, such as mealtime, and circumstances, such as getting ready for school, doing chores, going to the store and sibling fighting (Embry, 1974), are highly predictive of parent-child problems across almost all types of families.

These principles lead to some strategies that can work both for prevention and intervention: Community volunteers and paraprofessionals can be as effective and even more effective than professional in

delivering parenting interventions (e.g., Levenstein, O'Hara and Madden, 1983; Jester and Guinagh, 1983; Isaacs, Embry & Baer, 1982). Solution-focused, specific interventions or recipes to deal with common behavior problems can be highly effective in changing parent-child interactions (e.g., Christophersen & Gyuley, 1979; Clark et al., 1977; Embry, 1984; Bauman et al., 1983; Forgatch & Ramsey, 1994), and such interventions may draw significantly more parent participation and achieve greater implementation if the children are instrumentally involved in the “parent training”, such as by putting on dramatic plays for families (e.g., Roberts, Fanurik, & Wilson, 1983). Behaviorally-focused parent training interventions have the most rigorous long-term follow up data on effectiveness, both for more intensive interventions and more prevention oriented interventions (e.g., Strain et al., 1982; Embry & Malfetti, 1981).

Parental Academic Involvement and Monitoring. Reading success and parental monitoring are often touted as solutions for violence. Just telling parents to read more with their kids or to monitor the whereabouts of children is an insufficient practice. Teaching parents to use more behaviorally based techniques to encourage reading is more effective in helping children’s language than just listening to children read (Leach, & Siddall, 1990). The epidemiological literature shows that, in general, lax parental monitoring is related to increased delinquency risk (e.g., Patterson & Stouthamer-Loeber, 1984), yet there is no apparent experimental literature on how to teach effective parental monitoring—an important concern because there is some evidence that suggests a U-shaped curve on the nature of parental supervision such that too much might increase delinquency (Weintraub & Gold, 1991). Case study reports also make it clear that adults frequently do not have access to relevant information for supervision as a result of modern social structures, which is substantailly different than being unwilling to supervise or ineffective in supervision (e.g., Taffel, 1996).

Inference for prevention, intervention and policy. The implications for prevention, intervention and social policy regarding youth violence are profound from these findings. First, parents require specific, frequent

prompts, praise and rationale for engaging in effective parenting practices—which can actually occur in many natural circumstances throughout the community such as stores, clinics, and apartment complexes. Second, symbolic models of effective parenting (TV ads, stories, etc.) can facilitate acquisition of good parenting skills—more so than didactic instruction alone. Third, parenting interventions that stress that adults ought not to praise or reward children’s good behavior are not likely to have positive effects, especially for the most at-risk populations.

Recommended prevention approaches include:

- Solution focused parenting prevention activities (tightly tied to family needs such as getting ready for school) instead of general parenting education.
- Participation of young people as information delivery agents, because family participation rates will increase and children will be change agents.
- Increasing visible community support for positive parenting to reduce social isolation, which is a negative risk factor in behavior change.

Recommended intervention approaches include:

- Weekly data collection schemes to assess progress and home-based coaching to assure success, which can be combined with solution-focused interventions.
- Creating a positive school or neighborhood climate, making the focus on parents as partners rather than parents as sources of the problem.
- Structural changes in school systems to support effective parental monitoring.

The whole coin

Prevention and intervention cannot be separated on the issue of youth violence. They are the same coin. Too many issues are bound together, including therapeutic

compliance, therapeutic efficacy and therapeutic generalization.

Therapeutic compliance. An effective prevention program can greatly enhance the probability that individuals targeted for intensive interventions comply with procedures—if the prevention and intervention program are on a continuum of actions, rather than totally different tactics. Think of this as modeling or normative effect at one level.

Prevention programs typically operate in the settings in which a client typically lives, learns and plays. If the “norm” of the everyday setting (school, neighborhood, community) is quite different from what is needed to make a therapeutic change, then therapeutic behaviors are much less likely to occur. Consider a simple example, which is not altogether uncommon. A child referred for conduct disorders is almost certainly like to receive family therapy that emphasizes praise and rewards for positive behavior. If the child goes to a school where such praise and rewards are viewed as “bad,” then family compliance with the therapy will be compromised. The reverse is also true, but in a positive way. If a school’s prevention environment is an effective model of the behaviors and the methods to be learned by a child’s family, it is more likely that the normative influence of the school will impact therapeutic compliance by the family.

Therapeutic efficacy. If a child has been referred for the treatment of PTSD for example, then the focus of that therapy will be to teach the child to trust, to be less reactive to neutral stimuli, to be more accepting of praise and rewards (since they are often used as lures in predatory circumstances) and less aggressive or withdrawn. Again, a prevention environment (where the child or youth lives, learns and plays) can negate nearly any treatment. For example, the school decides to emphasize “stranger danger” and the dangers of violence in an upcoming “violence prevention program.” Such a program feeds into the automatic arousal of PTSD, driving the child into relapse. On the other hand, a school-wide program of intensively rewarding altruistic behavior in the school and celebrating pro-social competencies could do wonders for the child’s general apprehensiveness.

Therapeutic generalization. Prevention programs are considerably more portable than treatment programs. The more elements in the natural environment that cue the benefits of the treatment program, the more the changes in treatment or intervention are likely to be maintained across time, places and people. By carefully crafting the integration of treatment and prevention programs, such cost-effective generalization is more likely.

Mental and social wealth from common currency

What is the purpose of prevention and intervention with respect to youth violence? To end violent crime? Certainly. Do we seek just the absence of the problem? No. Do we seek to create something more? Yes, indeed. Both professionals and community members typically come up with a list of things they would like to increase and things they wish to decrease. One might label this social validity. The list follows in Table 1. As it turns out, the list of behaviors is highly predictive of “emotional intelligence” or risk of violent behavior (e.g., Walker et al., 1995).

INSERT TABLE 1 ABOUT HERE

It makes considerable sense to make these behaviors the explicit focus of both intervention and prevention procedures. There is a practical reason, too, in terms of evaluating the long-term efficacy of any prevention or intervention efforts: it make take considerable time for rates of arrest or homicides to emerge, or require considerable numbers of children and youth in a study to provide any intelligent assessment. The above behaviors are known to be in the causal chain of violence, and reliable tools exist to measure these behaviors. The measurement tools are sensitive to the effects of deliberate interventions. The socially desirable behaviors can be measured via the Walker-McConnell Scale of Social Competence (Walker and McConnell, 1996). The aggression items can be measured with the Child Behavior Checklist (Achenbach, 1991) or similar tools. There are two other advantages to the behaviors listed in Table 1: (1) they can be counted using behavioral assessments and self-assessments, which makes simple on-site evaluations by staff, families and even children possible; and (2) the occurrence and non-occurrence of the behaviors can be reinforced—a powerful tool in behavior change in both prevention of and,

intervention for, anti-social behavior (e.g., Kazdin, 1989; Patterson et al., 1989; Mayer et al., 1983).

When both prevention and intervention are united by a common set of measures, the probability of major effects are likely to improve greatly.

The effectiveness of operant learning procedures is well established—especially with issues of anti-social behavior (e.g., Walker, 1995). What may not be so well known is the role of neurotransmitters in learned (operant) behavior. For example, operant reinforcement clearly acts on the dopamine pathways in the brain (e.g., Carlson, 1994). By strengthening the positive behavior and decreasing the negative behaviors from the list in Table 1, we alter the neurotransmitters and ultimately the structure of the brain itself. More than passing evidence suggests that adults who target these and related behaviors for praise and reinforcement are not creating biological, passive robots; they are fostering the best intelligence possible, including the possibilities of high-levels of intrinsic motivation, giftedness and world-class talent (e.g., Bloom, 1982; Benbow, & Arjmand, 1990; Bloom 1982). The question is which behaviors to reinforce, because highly diffuse reinforcement tends to produce weak effects. The probability of eliciting the behavior one wishes to increase (e.g., cooperative, pro-social behavior that is incompatible with homicides) can be expressed as an elegant, simple formula. It is called the “Matching Law.” Specifically, the law states that the rate of a behavior will “match” the rate of its reinforcement. The formula and a graph of its results appear in Figure 1, which is adapted from Mattaini (1991) who was among the first to see its application to large-scale social issues like cocaine abuse (which involves dopamine receptors). This formula also applies to the issue of youth violence (e.g., Dishion, 1997).

INSERT FIGURE 1 ABOUT HERE

Heads up for prevention

One might think of prevention as the “heads” side of a coin, pointing the direction of where and what we want children to move toward. To make a violence prevention program effective as indicated is needed in the matching law, prevention programs will

need to contain nine strategic tools (Embry et al., 1996), focused largely on: 1) common language for “community norms”, 2) frequent story and live models for positive behavior, 3) high-density environmental cues to signal desired behavior, 4) daily role plays to increase range of responses, 5) daily rehearsals of positive solution after negative events and response cost as “punishment” for negative behavior, 6) group coupled with individual rewards to strengthen positive behavior, 7) threat reduction to reduce reactivity of children and adults, 8) self- and peer-monitoring for positive behavior, and 9) generalization promotion to increase maintenance of change across time, places and people. These strategies must be infused in everyday interactions of children, youth, families and other adults to foster a more peaceful community.

Tails up for intervention

Intervention is what we need to do when prevention fails. There is a wide-spread belief that intervention is uniquely different from prevention, a belief that is not sustainable. In fact, the nine strategic tools described in the previous paragraph are also the same cognitive-behavioral tools in effective treatments for children who exhibit more serious symptoms related to the risk of serious violence: attention-deficit hyperactivity disorder, oppositional defiant disorder, conduct disorders and post-traumatic stress disorder. The issue with intervention is largely one of “dose levels.” Some children need higher dose levels of the effective strategies to reset a child’s or youth’s physiological *zeitgeber* or “traits” a result of chronic exposure to trauma (e.g., Carlson, 1994).

Commonwealth — When the coins add up

Youth crime is bankrupting the social, spiritual and economic well-being of our society (e.g., Butterfield, 1996). The harm is overwhelming, and no one is spared. A paraphrase of John Donne’s poem speaks an eternal truth:

*No man is an island entire unto himself.
If Europe be diminished by a clod
washed to the sea,
then ask not for whom the bell tolls, it
tolls for thee.*

The well-off and middle-class are not exempt. Their children are the fastest growing group involved in youth violence, and the extensive “armed response” private security measures adopted by them are not so much a defense against the people from the “bad neighborhoods” but actually from the teenagers next door.

Our old age will not save us. Aging America will increasingly depend on the talent and civic spirit of the children who are kindergartners now. There will be many old people, and very few of the kindergartners proportionately—perhaps as few as 1.6 working young people to retired elderly, such as those of us reading this chapter the year it is published. The psychosocial forces that can produce the most talented, productive, and stable young people are presently hell-bent on producing an increasing record numbers of them who will dropout, zone out or shoot at each other. This record number will not contribute to the commonwealth while incarcerated.

Diverting children from a life of crime and violence is the only thing that makes any economic sense, a fact shown from a meticulous cost-effectiveness analysis from the Rand Corporation (Greenwood, Model, Rydell, & Chiesa, 1996). Prevention and intervention with youth and children make sense and cents. This chapter maps why youth violence prevention and intervention might be integrated for maximum benefit. Only our children will save us—if we save them from killing each other. Twenty years from now, the youngest among us will judge our stewardship in creating a climate that fosters domestic tranquility. For the sake of those children, let us show our will to use the wisdom available for common good.

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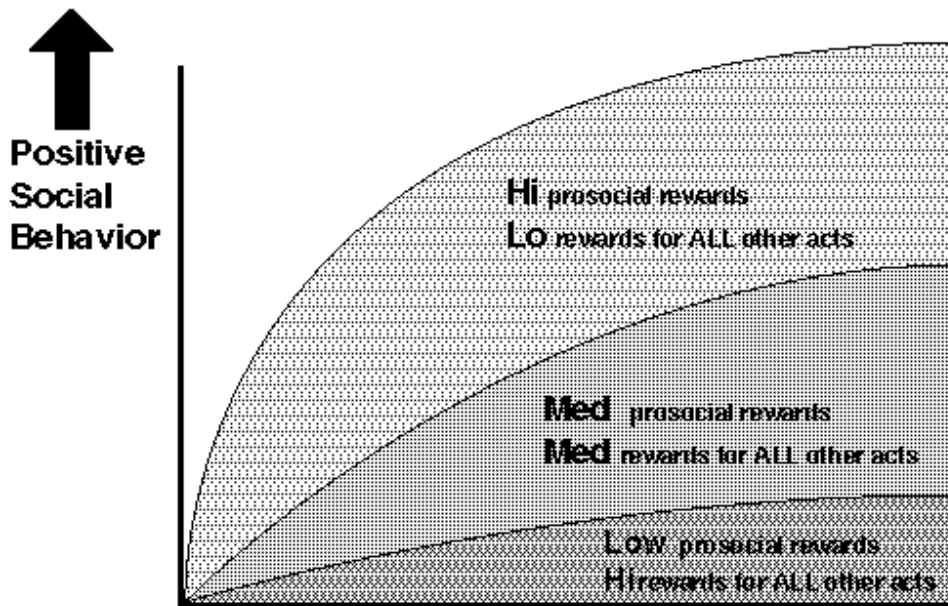
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TABLE 1: Social Competencies and Aggressive Behaviors

Social Competencies to Increase	Aggressive Behaviors to Decrease
<ul style="list-style-type: none"> • Use free time appropriately. • Share laughter with peers. • Have good work habits • Compromise with peers when a situation calls for it • Respond to teasing or name calling by ignoring, changing the subject, or some other constructive means • Accept constructive criticism from peers without becoming angry • Talk with peers for extended periods of time appropriately • Initiate conversations with peers in informal situations • Listen carefully to teacher instructions and directions for assignments • Appropriately cope with aggression from others (e.g., tries to avoid a fight, walks away, seeks). • Interact with a number of different peers • Can accept not getting their own way • Attend to assigned tasks • Do assignments as directed. • Produce work of acceptable quality given her/his skill level 	<ul style="list-style-type: none"> • Argue a lot • Brag or boast • Is cruel, bullies, or mean to others. • Demand a lot of attention • Destroy property belonging to others • Keep conversations with peers going. • Disobey people in responsibility • Disturb other people • Get jealous easily • Get in many fights • Talk out of turn • Physically attack people • Disrupt group discipline or activity • Scream a lot • Show off or clown around • Is explosive and unpredictable • Demands must be met immediately • Act stubborn, sullen, or irritable • Have sudden changes in mood • Talk too much • Tease a lot • Have a hot temper • Threaten people • Talk unusually loud

FIGURE 1:
 "The Matching Law:" $B = \frac{kr}{r + r_e}$



"B" is the rate of positive behavior

"r" is how often positive behavior is rewarded

"r_e" is how often all other 'good and bad' behaviors are rewarded

"k" is a constant

Reference: Mattaini, M.A. (1991). Choosing weapons for the war on "Crack." *Research on Social Work Practice*, 1, 183-213.