

Preventing Conduct Disorder in Children at High Risk

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Congressman Levin and members of this audience, thank you for this opportunity to talk with you about children. As you can see in the presentations of this panel, the scientific community is building an infrastructure for evidence about children and their development. Other sectors of our society, such as energy, the environment, the economy, and healthcare, have large infrastructures with ongoing data sets that inform practice and policy. We are building a similar infrastructure in the most important domain of all, our children's development. The research that I will report has been funded by NIH continuously since 1990. It has gone through 6 peer reviews by NIH study sections, and it has benefitted enormously from the peer-review system that we have in place. Each time, the reviewers asked challenging questions that improved our work. Each time, our NIH Scientific Review Administrator, Vicki Levin, was thorough, fair, and professional. We are deeply indebted to her and miss her beyond measure. The peer review system that is Vicki's legacy is a unique system that improves our science.

I would like to talk with you about the problem of serious antisocial behavior in youth. There is a group that we call "early starters" because they begin their problem behavior in preschool and grow into serious violent offenders who persist across the life span. In the 1990s, these children were labeled as "super predators" and it was thought that they were permanently biologically defective and that no intervention would alter their life course. It was the era of locking kids up, turning juvenile offenders over to adult court, zero tolerance, and no hope.

Through longitudinal studies that follow children over many years, we have learned a great deal about the early lives of these youths. The evidence indicates that at home, some toddlers have difficulties with impulse control and behavioral regulation, and their parents have difficulties with behavior management. These parenting difficulties are especially likely if the parents are stressed by limited economic resources. Early difficult temperament grows into conduct problems at home, which keep the child from learning necessary social-emotional and cognitive skills.

When these children reach school, they experience social rejection from peers, failure with academic tasks, and conflict with frustrated teachers. These failure experiences lead the child to adopt a defensive style of interpreting information about the social world. They become disengaged from mainstream groups, including classroom peers, school activities, and parents. Over time, others give up on them. Their parents actually withdraw from interaction and supervision of these children to relieve conflict and tension, which ironically worsens the problem. As a result, as the child grows into adolescence, he or she gravitates toward deviant peer groups and accelerates antisocial behavior into serious violent crime.

When we started, no previous intervention that had targeted this highest risk group of early starters had been successful. This is a group for whom prevention is most daunting. However, it is also the group for whom it is potentially most beneficial. This is especially the case given the costs of violence to society. The total burden of crime exceeds \$ 1 trillion annually, but only a small group of about 7% of youths account for over half of all crime. The cost of losing one high-risk youth to a life of crime is 1.25 to 2 million dollars. It is *not* the case that taxpayers are indifferent to them. Taxpayers are willing to pay a great deal to reduce crime, *if* the plan is effective.

This developmental science informs the design of our intervention. It suggests that preventive intervention should start as soon as a high-risk child can be identified. It should involve the multiple social contexts in which the child participates, because risks can arise from family, peer, school, and community factors. It should be sustained across development, because although early risks elicit later risks, it is also the case that new risk factors can emerge over time. The Conduct Problems Prevention Research Group developed the Fast Track Intervention based on these principles.

The Fast Track Program identified early starting conduct-problem children in three cohorts from 1991 to 1993. We screened 9,341 kindergarteners in 55 schools at 4 geographic sites, in Durham, NC, Nashville, TN, Seattle, WA, and central PA. We relied on teacher reports and parent reports of aggression and conduct problems at home and at school. From this screening, we Identified 891 early starters. Most were boys, and they came from ethnically diverse families. We randomly assigned these children, by school clusters, to receive intervention or to serve as controls. The controls were simply followed over time with no extra intervention beyond what they get in the normal course of their lives.

We developed and implemented a ten-year intervention for these children, from 1st through 10th grade. The intervention involved working with parents, the children, their peers, and their teachers. Program components targeted the major risk factors for antisocial behavior that had been identified in developmental science.

We started with *parenting* through weekly group sessions and biweekly home visits. These sessions focused on behavior management, building warmth between parent and child, and, as the child got older, monitoring of whereabouts and supervision of behavior.

Next, we focused on the child's *interpersonal competence*. We used proven methods to teach behavioral and social skills in classroom curricula, small group sessions, and coaching to improve peer friendships.

We paid great attention to *intrapersonal competence* through skills training in emotion recognition, accurate and benign attributions about the world, and how to solve social problems.

Academic skills were also a major focus, through tutoring in reading skills and later in organization and study skills through after-school groups.

The timeline for the project spans the past 22 years. Beginning in 1991, we screened 3 cohorts of kindergarteners and have followed them over time. They are now young adults.

Our evaluation focused on four questions: 1) Did we deliver the intervention as promised? 2) Did we succeed in improving the targeted competencies in social and emotional learning and academic skill? 3) Did we alter their antisocial behavior? and 4) Did our impact last beyond the period of our intervention and lead to financially beneficial outcomes?

First, yes, we were successful in reaching them: 98% of all families assigned to the intervention did participate in at least one aspect of the program, and 75% participated in at least 75% of the sessions.

Second, yes, the intervention proved successful in improving social and emotional literacy as measured by objective tests. Relative to the control group, Fast track children showed greater accuracy in recognizing emotions, lower rates of hostile attributional biases, better social problem solving skills, and a decision making pattern that shows less endorsement of aggressive retaliation when provoked.

Fast Track children also showed better academic skills on a standardized test called the Spache reading test and in early performance and placements in school.

Third, yes, when the children grew into adolescents, those children who had been randomly assigned to Fast Track had lower overall juvenile arrest rates. When we looked specifically at the highest risk sub-group of children, we found that Fast Track prevented arrests for violent crimes, such as murder, rape, kidnapping, arson, and assault with a weapon. The difference is substantial: 15 percent of the control group had these arrests, but only 9 percent of Fast Track children had these arrests.

We also had objective clinical interviewers make psychiatric diagnoses at age 18 and found that among that highest-risk sub-group of children, the rate of psychiatric conduct disorder was cut in half, from 41 percent down to 20 percent.

We conclude with a preliminary economic analysis of the costs and benefits of this intervention. We know that each chronic criminal costs society over 1.25 million dollars in costs for incarceration, treatment, victims, and lost taxes from earnings. Fast Track is expensive: it costs between 5 and 6 thousand dollars a year for 10 years, or 58,000 dollars. But, if Fast Track could reduce the prevalence of chronic criminals by just 5 percentage points, the benefit-cost ratio will be positive. Indeed, assignment to intervention reduces lifetime prevalence of conduct disorder by 21% points, among that highest-risk group.

So the cost savings could be substantial. Over the life course, it could be over 100,000 dollars per treated child, among that highest-risk group. This is not an appropriate treatment for lower-risk children because the costs likely outweigh the benefits.

This program and its evaluation have important implications for public policy and practice. We now have the assessment technology to identify a group of children in kindergarten who seem headed for costly conduct disorder in later childhood. We also have the intervention technology to interrupt the development of conduct disorder.

Our *judicial policies* over the past two decades have stiffened sentences for juvenile offenders based on the presumption that this group cannot benefit from intervention. But the current study refutes that presumption. Our *education policies* have emphasized segregation of this group through suspensions, expulsions, and alternative schools. But the current study demonstrates an effective means of keeping these children in mainstream classrooms. Further, we have reason to believe that intervention with the highest-risk group stands to benefit the rest of the school population through reduction in deviant peer influences and improvements in classroom behavior.

We have a few take-away messages: Most importantly, “early starting” children are not destined to a life of crime. We know how to deflect their developmental course. The costs of sustained intervention are high, but the evidence suggests that the benefits to society might well be substantially greater than the costs.