Developments

December 1998
Volume 12, No. 4

IN THIS ISSUE:

Developments is a quarterly publication of the University of Pittsburgh Office of Child Development, which is solely responsible for its content. The Office is a program of the University Center for Social and Urban Research and is sponsored by the Howard Heinz Endowment, the University of Pittsburgh, and UCSUR. **Staff: Co-Directors:** Christina J. Groark, Ph.D. and Robert B. McCall, Ph.D.; **Associate Directors:** Carl N. Johnson, Ph.D. and Mark S. Strauss, Ph.D.; **Human Services Coordinator**: Kathryn L. W. Rudy M.S.W.; **Manager, Child Welfare Indicators**: Beth Osborne Daponte, Ph.D.; **Administrator**: Barbara Wells; **Secretary**: Cathy Kelley; **Newsletter Coordinator**: Mary Ellen Colella; **Editor, Writer**: Jeffery Fraser. **Address**: Office of Child Development, University of Pittsburgh, 2017 Cathedral of Learning, Pittsburgh, PA 15260. **Phone**: 412-624-7425. **Fax**: 412-624-1187. **E-Mail**: colella+@pitt.edu

Human Services Reform

New Strategy Focuses On Results, Gives Communities Greater Role

An approach to human services delivery that hands individual communities more power to define outcomes important to them and greater responsibility in seeing that results are achieved is being explored in Allegheny County and may be tested in a few communities as early as next year.

The strategy, known as results-based accountability, would require fundamental changes in the way human services are funded and decisions are made.

"The community has a role in both deciding the course and in implementation and holding people accountable," said Ray Firth, Director of Family Services System Reform. "You need to marshal the assets of a community far beyond the professional paid staff within that community. This makes an assumption that communities have assets and they have been underutilized and that those assets are part of the solution for the community."

Firth said pilot projects in a few interested communities are under consideration. The strategy was favorably reviewed by residents of seven Allegheny County communities, human services staff,

and state and county officials who attended a mini-seminar on the topic in September. Public and private funding is being sought.

Interest in a results-based approach is part of an ongoing effort in Pennsylvania and Allegheny County to evaluate various reforms that hold potential for making better use of human services resources. Several states are experimenting a results-based approach to human services decision making, budgeting, and accountability, including Oregon, Iowa, Minnesota, and Vermont.

Oregon set the pace in 1989 by establishing a "Progress Board," which determined a vision of the quality of life that people in the state wanted, set goals to achieve those results, and measured progress through certain statistical benchmarks.

Focus on Results

Results accountability in the business world is nothing new. Companies live and die by profit as the overriding result for which they are held accountable. But in human services, results-based accountability is in many ways a radical departure from the ways services have traditionally been delivered.

Perhaps the most striking difference is that services are aimed at achieving specific results important to individual communities. Such a system asks, "What are the results people want for children, families, and communities?"

The answer to those questions are typically found through hearings, focus groups, and surveys that seek input from a broad range of people, especially residents, leaders, and organizations within each community. Examples of results might include children born healthy, children in stable families, children prepared for school, and children staying out of trouble.

Progress, or the lack of progress, is tracked by the use of benchmarks, or measures for which there is data. Benchmarks might include statistical rates of prenatal care, rates of immunization for children, reading and math achievement scores, high school drop out rates, and rates of teen pregnancy and drug use.

In addition, performance measures are used to assess the effectiveness of agency or program service delivery. These measures, important to running programs well, address service response to social problems.

Under this type of human services system, the results sought by one community may differ than those sought by another. Also, the way communities decide how to achieve those results may vary.

Establishing a set of desired results is not limited to individual communities. For example, the county might decide upon a certain set of results to be achieved in all municipalities, such as ensuring that all children receive quality early childhood education.

The bottom line for such a system is whether the results desired by communities are achieved.

Other changes required by a results-based system include funding streams becoming more flexible to adapt to the needs of individual communities. Also, agencies and programs would be evaluated more heavily on how they contribute to achieving results.

"Whether it's child care, housing or mental health services, agencies have fought to gain resources, competed for scarce resources," Firth said. "The funders are going to have to turn it around and say we're not going to fight over a share of the pie, the pie is going to be allocated based on who gets better outcomes and better results. They have to change the way funding is done to accomplish that end."

New Partnerships

Emphasizing results is also seen as encouraging new partnerships.

"If you're trying to reach out to an addicted teen in your neighborhood, you may want to work with say a woman in the neighborhood who is respected and looked up to by those teens because she may more effective to get them following through with treatment than a licensed social work therapist," Firth said. "It takes a change in the way of thinking. And you reach and use different partners."

Community Role

A results-based approach places an emphasis on creating ways for communities to come together and take responsibility for the well-being of children and families.

As a first step, those within the community hold considerable sway over deciding what results the system sets out to achieve. As the system matures, the community would likely assume more of the responsibility of implementing programs and monitoring progress and accountability.

"That's part of the reform, turning it from a top-down to a bottom-up decision-making process," Firth said. "But while you're looking for your solutions, engagement and action at the neighborhood level, the neighborhoods are still going to need collaboration from funding sources and policymakers."

Offering communities a larger role in improving neighborhood conditions assumes they are willing to accept the responsibility. Firth said several communities have been attempting to do just that for some time. "Several have been trying to address these things, whether it's been in a church or a neighborhood group or out in the neighborhood talking about it. But they haven't always been seen as bringing something to the table. This really utilizes those assets and that interest. The community really sets the agenda, rather than an outsider coming in and saying, 'This is the problem we should be working on,' instead of, 'What should we be working on together? What are your priorities and what are your ideas about a solution?' It really changes the power equation."

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LRDC Founder Robert Glaser

A Career Spanning Five Decades Sheds Light On How We Learn

When psychologist Robert Glaser began organizing a formal institution to explore relationships between human cognition, learning, and education 35 years ago, finding good help was a challenge. His passion for thinking about how we learn and also applying it to practical education was not widely shared by colleagues.

Today, the problem is a historical footnote. Research on processes of performance and education has become a legitimate field of study, due in large part to the work of the Learning Research and Development Center (LRDC), which blossomed from the handful of scientists Glaser assembled at the University of Pittsburgh in 1963 to an institution internationally recognized for its work in broadening scientific insights into learning and applying them to classrooms and other educational settings.

"Before that, the topic wasn't super popular among behavioral scientists," said Glaser, Ph.D., University Professor and Founding Director Emeritus of the LRDC. "You would, for example, find some good psychologists and say you wanted them to think about education, but they would shy away from applied work on education."

Dr. Glaser's interest in how we think and learn spans five decades and covers a range of issues, including behaviorism's notion of programmed learning, the usefulness of computers as teaching aids, the nature of expertise, individualized education, and methods of testing designed to show what students actually know and can do, rather than how they compare to others.

Currently, Dr. Glaser's interest lies in developing more informative achievement tests in the disciplines of learning by utilizing knowledge of cognitive science, human problem-solving, and what is known about the differences between high and low levels of competence as found among experts and novices.

He attributes the success of LRDC to hiring people "twice as smart as myself." It's a lofty criteria, to say the least, for Dr. Glaser's pedigree as a scholar is widely recognized. This year, he added the Franklin V. Taylor Award, bestowed by the American Psychological Association Division of Applied Experimental and Engineering Psychology, to a long list of honors that include the APA's Distinguished Scientific Award for the Applications of Psychology, the John Simon Guggenheim Fellowship, and the Chancellor's Distinguished Research Award at the University of Pittsburgh, where he has worked since joining the psychology faculty in 1956.

Although the topics of study have varied, the work that earned him recognition fits under the umbrella of a single vision – an educational system nimble enough to adapt to the instructional needs of all students.

Behaviorism Explored

The path Dr. Glaser followed to becoming a leading proponent of cognitive science was not a straight one. To begin with, when he entered the City College of New York some 60 years ago, he did so in pursuit of a chemistry degree. It was a series of lectures on the development of individuality and concepts of human malleability that piqued his interest in psychology.

His graduate studies took him to Indiana University, where his professors included the behavioral psychologist and learning theorist B.F. Skinner. It was the heyday of learning theory and the hot movement of the time was programmed instruction, a concept grounded in behaviorism that argued that learning in many areas is best accomplished in small steps with immediate reinforcement, or reward, for the learner.

It was an idea that Dr. Glaser would eventually outgrow, but not before spending several years as an advocate and analyst of programmed instruction and so-called "teaching machines." Teaching machines, which could be as simple as a workbook, were devices that presented a program of instruction according to certain rules of learning. They usually presented a sequence of questions, students indicated the answer, and then were provided with the correct answers as a reinforcement.

"That's a part of my past," Dr. Glaser said. "It belongs to the theory of behaviorism, which I and the field of psychology has outgrown. But teaching machines were applying learning and the keynote of my life is the relationship of the science of learning theory to educational instructional practice.

"It became popular. They built programmed texts that could teach grammar, punctuation, facts in science and procedures in mathematics."

Teaching machines attracted commercial interests. But while a number of Dr. Glaser's colleagues turned to producing programmed textbooks and teaching machines, he remained devoted to scholarship. He did, however, hold a few shares of stock in company started by his colleagues and when a large encyclopedia publisher bought the company, he realized a profit – enough to pay for the remodeling his kitchen.

But some of the limitations of behaviorism in learning theory became clearer with further investigation and when ideas such as programmed instruction were applied to classrooms. "Programmed instruction did not involve the higher levels of human cognition. It was effective in teaching performance and procedure, but it didn't foster complex reasoning or particularly encourage creativity. "When cognitive psychology emerged, I began to think more about the process of reasoning and problem solving."

Humans As Thinkers

The shift to cognitive psychology meant considering mental processes and adopting the view of the human being as a thinker, a radical departure from the view of behaviorists. Remarkably, it was a seamless transition for Dr. Glaser, as LRDC Director Lauren B. Resnick points out in her preface to a 1989 collection of essays published in his honor.

"Contrary to what one might expect," Dr. Resnick writes, "this major shift in scientific perspective was accomplished without an abrupt break either in scholarly productivity or in fundamental research and social commitments. Across the behavioral-cognitive dividing line, Bob has maintained a continuing set of core questions and preoccupations. These include the nature of aptitudes and individual differences, the interaction of knowledge and skill in expertise, the roles of testing and technology in education, and training adapted to individual differences."

One example of Dr. Glaser's work in cognitive psychology is his interest in the nature of expertise, which he investigated with Professor Michelene Chi.

"Our interest at that time was to study cognitive processes of high level competence and low level competence and compare the differences – what is acquired when you become competent or more expert in a subject matter compared to beginners.

"When you study expertise, you explore such things as the differences between how a novice and an expert represent or describe a problem. The expert sees it in much deeper ways. And because experts initially represent the problem in terms of the principles behind it, they are much better at solving it. The nature of problem representation and how we can teach effective problem representation is a important matter of study these days.

"Also, experts are very good at monitoring their own performance. In a sense, they can look at what they are doing and that determines how they correct themselves, and what kinds of problems they choose to work on to improve their efficiency.

"It's these cognitive abilities that feed into what we should be teaching and how we should assess it."

Testing and Technology

Dr. Resnick, after reviewing nearly four decades of Dr. Glaser's writings, reported that among the aspects that marked his career was his responsiveness to promising new ideas.

He was, for example, an early investigator of the use of computers to enhance and enrich instruction. During LRDC's first decade, Dr. Glaser and colleagues, working with computers that filled a large moving van, studied the introduction of computers as aids to elementary school instruction and classroom management.

In 1963, he published a paper introducing the idea of criterion referenced testing – testing in a way that shows what each student knows and doesn't know and details about their competency, rather than simply to compare them to others. Testing of this kind is considered essential to educational systems that seek to adapt instruction to all students.

"I've been very concerned with forms of achievement testing that give more information about skills and competencies, so you and your teacher know just what you're good at, what level you are at, and other things," Dr. Glaser said. "I was faced with the problem because I was designing instruction for electronic troubleshooting in high-tech workplaces. We had to develop some testing, and I was interested in the informative nature of testing for improving instruction and performance.

"In thinking about the kind of testing that was common in the schools, I realized that if we really wanted to improve the knowledge that teachers have about helping individual students, then this type of diagnostic assessment would be very important."

Recently, with the idea of setting educational objectives and performance standards gaining in popularity, there is renewed interest in criterion referenced testing. "There is an increase in the careful study of tools for measuring achievement," Dr. Glaser said.

Recent Work

Innovation in the measurement of achievement is viewed as an essential feature of educational reform. Measuring reasoning, understanding, and problem solving requires conceptualizing subject-matter achievement with respect to the quality and complexity of cognition that develops in the course of learning.

It is a perspective that necessitates changes in accepted practices for assessment design and influences the nature of validity evidence required to support test use and interpretation. Development of new assessments, Dr. Glaser argues, should be guided by an understanding of the knowledge, skills, and associated cognitive activities that underlie more and less competent performance in school subjects.

His work with expertise and with testing leaves Dr. Glaser well positioned to explore this kind of assessment design. Recently, his work has included developing an analytic framework for examining the properties and objectives of assessments and scoring systems piloted in a number of prominent state and district testing programs.

The framework considers the cognitive components of competence, including problem representation that guides planning and anticipation of alternative outcomes, goal-directed strategies that influence problem solution, self-monitoring activities that control and regulate thinking and reasoning, and the explanation of principles underlying performance that facilitates learning and problem solving.

Viewing development efforts in this way, he believes, provides a foundation for assessment design grounded on evidence for cognitive interpretations of educational achievement.

Adaptive Education

The common thread running through all of Dr. Glaser's work over the years is the vision of an education system that reaches out to all students, rather than selecting an apparently able few for success.

"We need to make education more sensitive to the differences and needs of individuals," he said. "That's why I am interested in measuring the details of outcomes of learning; and why I am interested in technology – how can that be adapted to individual differences. What is it that we can learn about students that can be used to motivate and to design their education? Can we build on the information and the kind of problem solving abilities that they have learned in and out of school? Can we be more adaptive to that than we have been?

"That is hard to do. A lot of good teachers are sensitive to it. But how can we increase the possibilities?"

Answering that question, in Dr. Glaser's view, requires a strong relationship between expanding knowledge about learning concepts and testing them in practical educational situations, whether they be school classrooms or industrial training sessions. At LRDC, for example, Dr. Resnick has established the Institute of Learning to work with schools and deliver to working educators the best current knowledge on learning processes and principles of teaching.

"Research is providing an increasing amount of information about human learning that can be applied to improved environments for learning," said Dr. Glaser. "As we apply the concepts of cognitive science for social benefit, we learn the limitations of our theories and our knowledge. Applying science for the good of society not only benefits society, it also forces researchers to improve their science."

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Program Evaluation, A Fact Of Life For Most Agencies, Is Focus Of New Guide

For human service agencies, monitoring and evaluation has become a fact of life. Funders, policymakers, and boards of directors increasingly want to know how well the programs they fund are operating and whether objectives are being met. Agencies themselves are increasingly asking how they might refine their programs.

Although evaluation is not often a pleasant prospect for agencies, if done well, it can be a useful tool for agency directors, staff, funders, and policymakers for improving programs, according to a new guide to evaluation published by the Policy and Evaluation Project of the University of Pittsburgh Office of Child Development.

The 30-page guide, *An Agency Guide To Thinking About Monitoring and Evaluation*, provides information on a range of topics, including types of evaluation and monitoring, how much evaluation is needed, the evaluation process, types of assessments and measurements, and using monitoring and evaluation information.

The guide is available through the Policy and Evaluation Project (*see box for details on obtaining copies*).

What follows is a summary of information reported on the characteristics of good evaluation, important distinctions, who should evaluate, and who benefits from program evaluation and how.

Characteristics of Evaluation

The primary purpose of good evaluation is to improve programs. Ideally, it should be started early, even as early as the time when a program is conceived.

Other important characteristics of good evaluation include:

- **Systematic inquiry**. Program evaluation systematically gathers information on participants, services delivered, intended outcomes, and other program aspects. One of the most important benefits is that evaluation helps all stakeholders think in a structured, systematic manner about goals, program participants, and outcomes.

- **Continuous process**. Ideally, program evaluation is not a one-time report card, but an ongoing process that agencies incorporate into their operation.

- **Partnership among stakeholders**. Each stakeholder has something invested in a program and something to gain from program evaluation. When evaluation works best, it is conducted as a partnership among all involved.

Distinctions

Evaluation and monitoring are different. Monitoring refers to keeping records of the nature of participants, the services they receive, and their progress toward attaining the objectives of a program. Program evaluation usually includes monitoring, but also looks deeper into whether the program itself produced desired outcomes and, perhaps, why the outcomes were achieved or not achieved.

Another important distinction is between "process" or "formative" and "outcome" or "summative" evaluation and monitoring.

Process monitoring and evaluation provides systematically-gathered information on program participants, services rendered, and experiences of staff and participants. It asks questions such as, "Is the program operating according to plan?"

Outcome monitoring and evaluation, currently popular among funders and policymakers, is designed to determine whether the program is producing the intended outcomes among targeted participants. In addition, can help to identify what aspects of a program work or what aspects don't and why.

Who Should Evaluate?

Evaluations can be conducted by independent evaluation specialists, by an agency itself, or a combination of both.

An independent evaluation has the immediate advantage of credibility. An outside specialist with nothing invested in the program is at least perceived as unbiased and objective. But an independent evaluation has some disadvantages. For example, it may cost more and an outside evaluation staff is not likely to be familiar with the program. Self evaluation, on the other hand, may cost less and agency staff working would have the advantage of knowing the program and its participants. However, self-evaluation runs the risk of lacking objectivity or, at least, being perceived as lacking objectivity. For example, will program participants tell their own caseworkers that they have not been helpful?

Currently, a combination of agency self-evaluation and independent evaluation is favored. In this approach, an outside evaluator's role may include providing technical assistant and conducting parts of the evaluation. Agency personnel, rather than the evaluator's staff, might collect most of the monitoring and evaluation data. Both the agency and the evaluator review and sign the final report.

Who Benefits?

When evaluation is done well, all stakeholders in a program should benefit in some way. Here are some of the ways various stakeholders may benefit from evaluation:

- **Agency directors**. Directors of agencies have systematically-collected information on process and outcome that they can use to report to boards and funders, and to guide decisions on program changes, resource and personnel allocations, new program development, and other decisions.

- **Agency staff**. Staff have a record of their work. Staff usually sense they are helping people, but it can be especially rewarding when an evaluation turns up documented evidence of how they are improving the conditions of those they serve.

- **Funders and policymakers**. Evaluations can provide information that will help them make funding decisions, not only which program should be refunded, but also whether such programs, in general, can be effective. They may also learn how to deliver services more effectively.

- **Participants**. They may gain information that charts their progress toward attaining goals, which may help motive them to succeed. Also, evaluations presumably will lead to improvements in services they receive.

- **Evaluators**. Good evaluations also benefit evaluators, who may receive information that, for example, will help them improve measures of outcomes that, in turn, may benefit other programs and evaluators. Academic evaluators may also be interested in furthering general knowledge about a particular type of service and identifying elements of a program that contribute to its success.

Overall, good evaluation contributes valuable, systematically-gathered information on which to base important decisions on services for children and families that otherwise might be influenced by someone's best guess, a hunch, or the latest fad.

An Agency's Guide to Thinking About Monitoring and Evaluation, a publication prepared by the Policy and Evaluation Project of the University of Pittsburgh Office of Child Development, is available to agencies. Copies are available by calling Cathy Kelley at (412) 624-5527 or by sending an e-mail request to pucpep@vms.cis.pitt.edu.

Editor's Note: *Another publication on evaluations that agencies may find useful is the* W. K. Kellogg Foundation Evaluation Handbook *produced by the Battle Creek, Michigan foundation. The handbook includes chapters on blueprints for an evaluation; preparing for, designing, and conducting an evaluation; and how to communicate findings and use the results. The Handbook is available on the Internet at the Foundation's site,* www.wkkf.org. *A free copy can also be ordered by contacting Collateral Management Company, 1255 Hill Brady Road, Battle Creek, MI, 49015. Phone: (616)964-0700. Ask for Item Number 1203.*

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ANNOUNCEMENTS

Family Research Consortium III

The Family Research Consortium III, supported by the National Institute of Mental Health, will sponsor a 1999 Summer Institute for family researchers entitled "America's Families: Who Are They at Century's End." The Institute will provide a forum for dissemination, evaluation, and discussion of important new developments in theory and research design, methods, and analysis in the field of family research. The Institute accepts a limited number of both junior and senior researchers as participants and allows for intellectual exchange among participants and presenters in addition to the more structured program of high-quality presentations. Minority family researchers are particularly encouraged to participate. The Institute will be held at the Mount Washington Hotel & Resort in Bretton Woods, New Hampshire, June 24-27, 1999. Co-chairs are Mark Appelbaum, Linda Burton, and Ana Mari Cauce. Deadline for applying is March 23, 1999.

For applications and/or more information, please contact Dee Frisque, Center for Human Development and Family Research in Diverse Contexts, The Pennsylvania State University, 106 Henderson Building, University Park, PA 16802-6504; phone (814)863-7108; fax (814)863-7109; e-mail: dmr10@psu.edu.

OCD Offers Additional Training in Evaluation

The Policy and Evaluation Project of the University of Pittsburgh Office of Child Development will be offering training courses on specific topics in evaluation in the Spring and Summer of 1999. Program announcements for the training, which is designed for program staff, will be mailed in January 1999. If you would like to be added to the mailing list for the program announcements, please contact Cathy Kelley at (412)624-5527; fax (412)624-4810; or e-mail: PUCPEP+@pitt.edu.

Child Development, Policy Focus of Harris Fellowship

The Irving B. Harris Graduate School of Public Policy Studies at the University of Chicago is seeking candidates for a one-year A.M. program providing expertise in childhood development and skill in policy research and analysis.

Full tuition and a $10,000 stipend is awarded. There are no research requirements. The fellowship period is one academic year, beginning September 1999. Applicants must hold a graduate degree in early childhood development or a related field. Deadline for applications is January 15, 1999.

FOR MORE INFORMATION, contact Ellen Cohen, Director of Admissions; phone: (773)834-2576; e-mail: eb-cohen@uchicago.edu or visit the School's website at www.HarrisSchool.uchicago.edu.

NSF Supports Research in Cognition and Perception

The National Science Foundation is sponsoring grants for research involving human cognition and perception.

The Human Cognition and Perception Program supports research that elucidates the mechanisms involved in such processes in human beings as perception, attention, learning, memory, thought, concept formations, reading, problem solving, and the development of such processes in children.

Research arising from a variety of theoretical traditions is supported. Most supported research takes place in the laboratory, but field research is supported as appropriate. Quantitative modeling of cognitive and perceptual processes is supported, as is the development of methods for their study.

Research may use clinical populations of subjects only when the primary justifications for the research is its broader, general scientific importance.

Deadlines for applications are January 15, 1999 and July 15, 1999.

FOR MORE INFORMATION, contact Helene Intraub, Program Director, Division of Social, Behavioral and Economic Research, National Science Foundation, 4201 Wilson Boulevard, Human Cognition and Perception Program, Suite 995, Arlington, VA 22230; phone: (703)306-1732; e-mail: hintraub@nsf.gov. Refer to NSF 94-64.

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FOCUS ON FOUNDATIONS AND CORPORATIONS

Spencer Foundation

The Spencer Foundation is interested in supporting research that contributes new knowledge and understanding to the field of education thought and practice.

Two of the foundation's grant categories include:

- **Major Research Grants**. These grants fund projects that investigate ways to yield new knowledge about education and improve education around the world. The program supports research from a wide range of disciplinary and interdisciplinary perspectives. Principle investigators must have doctorates in an academic discipline or in the field of education and be affiliated with a college, university, research facility or cultural institution.

- **Small Grants**. These grants help scholars from a broad range of academic fields build on their past work or venture into new domains. The program encourages scholars from diverse disciplines to develop ideas and approaches that extend the conventional limits of a research area or method. The research should be relevant to education. Principle investigators must have doctorates in an academic discipline or in the field of education and be affiliated with a college, university, research facility, or cultural institution.

Major grants start at $12,000. Small grants range from $1,000 to $12,000.

There are no deadlines for major grants. Applicants should submit a brief preliminary proposal. There are also no deadlines for small grants. Applicants for small grants should submit a proposal in the form of a statement with attachments.

FOR MORE INFORMATION about major grants, contact John Barcroft, Vice President; for small grants, Therese Pigott, Small Research Grants Program; Spencer Foundation, 900 N. Michigan

Avenue, Suite 2800, Chicago, IL 60611-1542; phone: (312) 337-7000; fax: (312) 337-0282; Internet: www.spencer.org.

Note to University of Pittsburgh Faculty: It is University policy that foundation and corporate funding sources may be approached only through, in cooperation with, or with the approval of the Vice Chancellor for Institutional Advancement. Interested faculty should contact Al Novak, Associate Vice Chancellor for Corporate and Foundation Relations at 624-5800.

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SPECIAL REPORT

SERIOUS AND VIOLENT JUVENILE OFFENDERS: THE PATHS THEY FOLLOW, FACTORS THAT PUT THEM AT RISK, AND INTERVENTIONS THAT HOLD PROMISE

Serious and violent juvenile offenders commit crimes that shock – murder, rape – the kinds of crime that make the evening news. They commit armed robberies and carjackings. They are involved in extortion, drug trafficking, kidnaping, arson, and other crimes far more severe than those of other delinquents.

This distinct class of juvenile offender has grown dramatically in number over the past two decades, creating a difficult and dangerous problem for juvenile authorities and the American public. Research, however, reveals much about serious and violent juvenile offenders, shedding light on the pathways children follow to violence, the factors that put them at risk, and preventive measures and

interventions that hold promise. Perhaps most importantly, research suggests it is never too early to begin efforts to prevent juvenile violence and never too late to intervene with known offenders.

The Problem

The number of serious and violent juvenile offenders rose significantly between 1975 and 1995 with juvenile arrest records showing dramatic increases in several of the most serious crimes, including murder.

Between 1975 an 1995, juvenile arrests for murder nearly doubled from a rate of 5.7 arrests per 100,000 youths between the ages of 10-17 to 11.2 arrests per 100,000 youths, according to the National Center for Juvenile Justice in Pittsburgh.

Arrests for other violent and serious crimes showed similar trends between 1975 and 1995. Juvenile arrests for aggravated assault increased from 131.4 arrests per 100,000 to 283.2; forcible rape arrests rose from 14.2 per 100,000 youths to 18.4; and robbery arrests increased from 162.2 arrests per 100,000 youths to 197.5.

Juveniles were responsible for 13% of the nation's violent crime in 1996 compared to 9% in 1987, based on case clearance data reported in the Uniform Crime Reports.

Moreover, the majority of serious and violent juvenile offenders continue to commit crimes year after year. These chronic offenders account for more than half of all serious crime committed by juveniles and account for larger shares of certain crimes. White male chronic offenders, for example, were found to account for 93% of all robberies.[1]

Characteristics

The actual delinquency careers of serious and violent juvenile offenders have been found to be quite different from what is officially recorded.

On average, the first contact with juvenile court for male offenders occurs around age 14. However, based on their own statements and those of their mothers, these youth actually begin much earlier with minor behavior problems surfacing around age 7 and their first serious crime being committed around age 12.

Risk Factors

Research identifies many individual characteristics and factors found in the family, school, community, and among peers that place children at risk of becoming serious and violent offenders. It is unlikely, however, that the influence of a single risk factor will lead a child to commit violence. More often, violence results from a mix of risk factors.

Psychological Characteristics

Several psychological characteristics of children increase the risk of later delinquent and violent behavior.

- **Hyperactivity** can predict later violent behavior. The relationship between hyperactivity and later violence has been found consistently across studies, regardless of the measurement methods used.

- **Concentration problems** predict later violent behavior as well as academic difficulties, which themselves are risk factors for violence. In Sweden, 15% of boys identified as having problems with restlessness and concentration at age 13 were arrested for violence by age 26 compared to only 3% of those who did not have those problems.[2]

Aggression

Many researchers have noted continuity of antisocial behavior from early aggression to violent crime.

- **Aggressive behavior** from age 6 to age 13 has been consistently shown to predict later violence in males across studies. Among a group of African-American boys in Chicago, nearly half who were rated as aggressive by their teachers at age six, had been arrested for violent crimes by age 33 compared with a third of their nonaggressive counterparts. And similar results were found among females.[3]

- **Early violent behavior and delinquency is also associated with more chronic and serious violence**. In one study, for example, half of the boys convicted for a violent crime between ages 10 and 16 were convicted of a violent crime again by age 24 compared with only 8% of those who had not been convicted of violence as juveniles.[4]

Attitudes and Beliefs

Control theory argues that beliefs or norms serve as internal controls against violent behaviors. Several investigators have found individual beliefs and attitudes regarding violence to be related to violent behavior.

- **Acceptance of problem behaviors such as drug use and crime places children at higher risk of engaging in them**. During elementary school years, children usually express anti-drug, anti-crime, and pro-social attitudes. Such attitudes lower their risks of later engaging in behaviors such as drug use and crime. But in middle school, when others they know engage in problem behaviors, children's attitudes often shift toward greater acceptance of those behaviors, placing them at higher risk.[5]

- **Dishonesty, antisocial beliefs and attitudes, and hostility toward police** have all been found to predict later violence among males. Among females, the relationship between those attitudes and beliefs and violent behavior appears less consistent.

Such findings are important considerations for preventive interventions aimed at helping children develop positive beliefs and standards of behavior. For example, they underscore the importance of "social and emotional literacy," a process by which children learn to successfully participate in social life by being taught to take turns, wait in line, tell the truth, and so on.

Family Factors

Certain characteristics of family life are suspected as contributing to the development of serious and violent juvenile offenders. They include:

- **Parent's criminal history**. Children with criminal fathers are more likely to commit violent crime later in their lives compared to children of noncriminal fathers. Whether there is a biological link to violence is not clear, but research suggests that violent behavior is more likely learned in a criminal family.

- **Child maltreatment**. Abuse and neglect are associated with later violent behavior. But the degree of risk depends on the type of abuse. Adults who had been physically abused as children were found to be slightly more likely to commit a violent crime, while those who had been neglected were much more likely to commit violence.[6]

- **Poor family management practices**. Failure to set clear expectations for behavior, lax supervision, excessively severe and inconsistent discipline and other poor parenting practices are factors that predict violence in children. In one study, 10-year-old boys with very strict parents reported committing the most violence and those with very permissive parents reported the second-highest levels of violence.[7]

- **Lack of parent-child involvement**. Factors that predict later violence include parents who are not involved in their children's education, fathers who do not engage in leisure activities with their sons, and the lack of communication between parents and adolescent children.

- **Family conflict**. Exposure to high levels of family conflict and marital strife increases the risk of violent behavior in children, with age at the time of exposure being a factor. While exposure to family conflict at age 10 does not appear to be an influence, exposure to high levels of conflict at ages 14 and 16 increases the likelihood of violent behavior at age 18.[8]

- **Separation from parents**. The disruption of the parent-child relationship is another factor that increases the likelihood of violent behavior later in life. Researchers report the risk of violent behavior increases for boys when relationships with parents are broken before age 10 and for both boys and girls when they leave home before age 16.

- Having **delinquent brothers and sisters** raises the risks of violent behavior. Studies report that 10-year-olds with delinquent siblings have an increased risk of being convicted of violent crimes; delinquent siblings have their strongest correlation with violent behavior during adolescence; and delinquent siblings have greater influence over girls than boys.

School Failure

Poor academic achievement is one of the most consistently-reported risk factors. In study after study, low academic achievement has been found to increase the likelihood of violent behavior and crime.

Students on low academic tracks in secondary school have been found to be twice as likely to be convicted of a violent crime. In the elementary grades, 20% of the boys with teacher reports of low attainment ended up being convicted of a violent crime as an adult – nearly twice the rate found among other students.[9]

Peer-Related Factors

The behavior and attitudes of peers and siblings also help determine whether a child will travel the path to violent behavior.

- Having **delinquent peers** contributes to the spread of violence during adolescence. On the other hand, having peers who disapprove of delinquent behavior may inhibit later violence.

- **Gang membership** appears to be a more serious risk. When gang membership occurs at ages 14 and 16, it increases the likelihood of violent behavior at age 18.

Community Factors

Circumstances exist in some neighborhoods that increase the risk of children developing violent behaviors.

- **Studies of individuals show a strong link between growing up poor and violent behavior.**

- **Growing up in low-income families** increases the likelihood of teen violence and conviction of violent crimes. In one study, more than 23% of boys who grew up poor were convicted of violent crimes compared to 8.8% of boys who were not poor.[10]

- **Community disorganization, low neighborhood attachment, neighborhood adults involved in crime, and greater availability of drugs** also increase the likelihood of serious delinquency and violence. These risk factors are more often found within poor communities.

Intervention

Violence is related to many factors, so treatment of specific problems may lessen risks of violent behavior at the same time. If attention-deficit hyperactivity disorder puts a child at risk for violent behavior, for example, then treating ADHD may decrease the chances of later violence.

However, so many factors put children at risk of becoming serious and violent offenders that intervention is not likely to be successful if it addresses a single risk or a single source of influence, such as individual characteristics, family, school, peers, or community. Multiple-component programs focused on preventive measures to reduce risk factors across several domains are more effective.

Studies of a wide range of interventions to reduce serious and violent juvenile crime suggest that:

- **Simultaneous intervention in the home and in school** is the most successful approach.

- **Community interventions** are helpful, particularly public health approaches, such as those aimed at reducing gang membership, the availability of guns, and drug markets.

- **Early prevention is important**. Effective early prevention includes home visitation for pregnant women and teen parents, parent training, preschool intellectual enrichment, and interpersonal skills training.

- **Later intervention is also important**. Interventions for juvenile offenders can reduce the risk that they will return to criminal behavior. The most effective interventions for noninstitutionalized serious juvenile offenders include interpersonal skills training, behavioral contracting, individual counseling, and drug abstinence programs. Among institutionalized serious juvenile offenders, the most effective interventions include interpersonal skills training and cognitive-behavioral programs.

Family-Focused

Some interventions aim at strengthening the family to lessen risks of later violence.

- **Family preservation**, a widely-used approach, offers a range of services, such as parent management and life skills training, to help families deal with stresses brought on by unemployment, family conflict, and other problems. Some family preservation programs appear to work well. In Michigan, compared to families with children returning home from foster care, preservation program families had significantly lower rates of further out-of-home placements through 30 months. But recent well-publicized failures of social service agencies to prevent further abuse or even death among children remaining in the home raise questions about the value of in-home placement.

- **Parent management training (PMT)**. This approach attempts to improve a child's behavior by improving parenting techniques, such as communicating clearly, responding in positive ways to good behavior, and appropriately punishing bad behavior. PMT results in improved behavior for many youth, but 25-40% of children whose parents receive the training continue to have significant behavior problems.[11]

- **Functional family therapy**. To increase communication and mutual problem-solving, parents are taught to use behavioral techniques such as setting clear and specific rules and consequences, use of social reinforcement, and employing a token economy. Primarily used with adolescents, this approach has helped to improve family communication and lower recidivism among delinquent youth.[12]

Child-Focused

Aggressive children often lack certain critical cognitive and social skills believed to be important to positive social interactions. They may, for example, fail to read relevant social clues or they may simply believe aggressive behavior is appropriate.

Social competence training teaches children to increase the use of positive social behaviors, such as conversation skills, academic performance, and behavioral control strategies. Social-cognitive processes, such as problem solving and self-control, are also taught. This approach was used in a violence prevention curriculum for troubled African-American youth. Those who participated showed improved behavior and fewer school suspensions and expulsions over time.[13]

School-Related

Academic problems contribute to antisocial and violent behavior. Failure to finish homework and poor reading skills are associated with aggressive behavior. Among antisocial youth, the most serious and chronic offenders typically are those who had low academic skills as children. Several interventions that target academic skills and student behavior have helped reduce the risk of serious and violent offending.

- Interventions focused on improving **school performance, attendance, and reading** may also reduce the chances of children becoming serious and violent juvenile offenders. For example, seventh graders with academic or discipline problems improved their school performance and reduced their delinquent activities when techniques were used such as awarding points for attendance and positive teacher ratings that could be cashed in for school trips and other perks. Five years later, significantly fewer of the young men and women had criminal records compared to youth who were not enrolled in the program.[14]

- **Classroom contingency training** is another intervention that attempts to improve student behavior. In this approach, successful parent management techniques are adapted to the

classroom. For example, teachers are taught to establish clear expectations regarding attendance and behavior and how to target encouragement and praise.

Peer-Based

Conflict resolution to reduce violence is a strategy that recently has become popular in middle schools and high schools. The programs are generally psychoeducational and aim at teaching students about the causes and consequences of violence, self-control, and social problem-solving.
Little evaluation data are available on these programs. However, a recent review casts doubt on their effectiveness largely because they presume that students are similar enough to benefit from a standardized program.[15] In fact, children develop antisocial behavior differently. Some are "early starters" and others "late starters," for example.

Policy Implications

Parents, schools, neighborhoods, and the juvenile justice system all play important roles in preventing children from becoming serious and violent juvenile offenders and intervening to turn around the lives of known offenders.

Several school, community, and family interventions have shown promise in lessening the risk factors of serious and violent delinquency.

- **Early intervention for at-risk families** has helped ease the stresses of unemployment, conflict, and other problems in the home that can lead to serious risks for children, such as violence, abuse, and neglect.

Juvenile Justice System

Compared to schools, neighborhoods, and families, the juvenile justice system is in a worse position to prevent serious and violent juvenile delinquency. One shortcoming is its focus on the adolescent population, despite research that places the onset of serious offending occurring between ages 7 and 14. In fact, about two thirds of serious violent crime does not show up in juvenile justice records.

Several steps have been suggested to help the juvenile justice system become more effective in efforts to prevent serious and violent juvenile crime.

Among the suggestions is the use of better tools to identify potentially-serious offenders in order to steer those youth into early interventions. Many serious and violent offenders are not identified as such early on if their first offense is minor.

Only recently have there been hopeful signs that national levels of youth violence are on the decline. Murder arrests, for example, have fallen in recent years from a high of 14.5 arrests per 100,000 youths in 1993 to 11.2 two years later.

However, new generations of children are at increased risk of becoming serious and violent juvenile offenders. Their best hopes of avoiding such lives rest with parents, schools, and neighborhoods – the primary socializing agents for children with the resources to provide them with brighter futures.

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EDITOR'S NOTE: This report, written by Jeffery Fraser, is based on the above article. It is not intended to be an original work but a summary for the convenience of our readers. References noted in the text of the report follow.

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