

Federal Policies for Research on Children

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Readers of this issue of the *American Psychologist* will have two interests in the federal government's policies for research on children. First, there is the important practical question of whether financial support for one's field is available. Second, there is a set of general issues concerning how government has involved itself in research on children and the influence of federal funding policies on the direction, scope, topics, and quality of research on children. Examining how federal policies develop and change may contribute to understanding what we learn about children and their world through research.

Support of Research on Children

The first question is the most straightforward: Which organizations sponsor research on children and to what degree do they support various sorts of research? At the outset, there is no federal policy for research on children. Decisions about research are shared by several divisions of the Office of Management and Budget, various congressional committees, intra-agency departments, and external advisory groups. Neither these decision makers nor researchers nor agency managers have agreed to a theoretical or operational definition of research on children and a set of goals for it. The scattered responsibility for programs among federal and state agencies makes reliable tracking of data on funding trends, categories, and functions awkward, but rough estimates are feasible.

The federal Interagency Panels on Early Childhood and Adolescence Research and Development have contracted with the Social Research Group at George Washington University to carry out censuses of research and development (R&D) on children and youth. The Social Research Group surveyed members of the interagency panels in order to estimate the numbers of research, development, and demonstration projects on children and adolescents that are supported by the federal government, and the dollar amounts made available to researchers. Table 1 attests to nearly 5,000 projects and \$474 million in 1977. According to

Nelson, Hurt, and Berkeley (Note 2), about 25%–30% of the money is for basic, applied, evaluation, and policy research—a total for research on children of approximately \$130 million.¹

Table 2 shows how the Social Research Group classified the topics of research and development on children and adolescents. The largest portion is for education R&D, but the exclusion of many Department of Defense and National Institutes of Health projects in the funding survey distorts the distribution. Including them would have increased the proportion shown as related to health services and physical development, and much of that would be for research. The government finances as much health research on children as educational research, large categorical and demonstration programs aside. Each accounts for about a third of all funds for research on children.

Biases Toward Types of Research and Fields

Data that are described elsewhere² demonstrate that the federal government prefers applied to

This article represents my own work and opinions; however, I am grateful for the advice of four former colleagues at the National Academy of Sciences. Cheryl Hayes taught me the rudiments of what is known about children's services and directed me to valuable bibliographic sources. Charles Turner helped cope with the crudities of the trend data. Elaine McGarraugh prepared the manuscript and suggested changes in language and tabular presentations. Deborah Coates, now at APA's Central Office, offered insightful comments on an earlier draft and suggestions for revision.

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¹ On a much smaller scale there are private contributors, including the Ford Foundation, the Carnegie Corporation, the William T. Grant Foundation, the Foundation for Child Development, the Rockefeller Brothers' Fund, the Harry and Margaret Towsley Foundation, the Rosenberg Foundation, the H. Goldman Foundation, the German Marshall Fund, and the Edna McConnell Clark Foundation (Hayes, Note 3).

² Summary tables are contained in a more detailed analysis of federal policies for research on children (Kiesler, in press).

TABLE 1

Federal R&D on Children and Adolescents, 1977^a

Agency	Number of projects	Research funds (in millions of dollars)	Major project aims or topics
Office of the Assistant Secretary for Planning and Evaluation	19	.2	Policy research and evaluations, such as the impact on children of laws and policies, service delivery systems, and the environment
Office of Human Development Services	297	32.4	Projects on delivery of services to special groups, such as disadvantaged families
Administration for Children, Youth and Families	268	31.1	Applied research (competitive grants) on child welfare, abused children, foster care, status offenders, teenage pregnancies, and other special problems
Administration for Public Service; Rehabilitation Service Administration	18 11	1.1 .2	Research grants on delivery of welfare services, most related to education, especially of the intellectually handicapped
Bureau of Community Health Services	63	5.2	Research in hospitals and clinics on medical services to mothers and children
Health Care Financing Administration	17	1.5	Grants to study delivery of health care, and the Early Periodic Screening and Diagnostic Testing Program
National Institute of Child Health and Human Development (NICHD)	525	34.0	Basic research grants, especially on development processes; NICHD includes a Center for Population Research and a Center for Research on Mothers and Children
National Institute of Neurological and Communicative Disorders and Stroke	116	12.4	Research on health services and physical and neurological handicaps, such as cerebral palsy, communicative disorders, and a variety of congenital disorders; also the Longitudinal Perinatal Project
National Institute of Mental Health	534	20.2	Research grants to investigate socio-cultural development and cognitive development; about $\frac{1}{3}$ of the projects directly concern the emotionally ill; approximately $\frac{1}{3}$ of the projects are for basic research; 15% are intramural
National Institute on Alcohol Abuse and Alcoholism	43	3.1	Projects on treatment and prevention of alcoholism, especially via educational interventions
National Institute on Drug Abuse	145	11.0	Research on social problems that affect etiology of drug abuse and treatment via health services
National Center for Educational Statistics	40	9.0	Statistics on the condition of American education; the majority of projects are intramural
National Institute of Education	427	46.0	Research and development related to education, primarily elementary education, in areas of basic skills and problems of schools; about 12% is listed as basic research, 40% as applied research; most funding (62%) is through contracts, $\frac{2}{3}$ of it competitive

TABLE 1—(Continued)

Agency	Number of projects	Research funds (in millions of dollars)	Major project aims or topics
Office of Education (OE)	2,496	276.6	Supports half of all projects listed, especially demonstrations (60%); nearly 77% are funded through competitive grants; most of the work is targeted toward special curricula or groups
Bureau of Education for the Handicapped	503	47.1	Research on instruction for the handicapped
Bureau of Elementary and Secondary Education	244	62.3	Research projects in the Follow Through program (86%), environmental education, and educational technology
Bureau of Occupational and Adult Education	359	16.6	Research on occupational training, institutions, and curricula
Division of International Education	72	1.4	Research and training in intercultural understanding
Office of Bilingual Education (Title VII)	567	91.3	Development and demonstration programs and curricula for children with limited English speaking ability
Office of Career Education	149	8.5	Career education curriculum development for primary schools and staff training
Office of Indian Education	210	16.4	Curriculum development emphasizing cultural awareness and basic skills in primary schools
Office of Planning, Budgeting and Evaluation	65	14.5	Evaluates OE programs, mostly through competitive contracts
Right to Read	327	18.4	Research on literacy, especially curricula
ACTION	3	.0009	
Department of Agriculture	178	— ^b	Most projects are basic research in land grant institutions, on development in families, poverty, nutrition, and physical development; more than 75% of the projects are funded through "agreements," in which sponsor and research institution share responsibility for the project
Department of Labor	26	14.8	Surveys and longitudinal research on youth unemployment and the economic environment, discrimination, and the transition to work
Department of Justice	25	6.1	A National Institute of Juvenile Justice and Delinquency Prevention has supported research on offenses and rehabilitation
National Science Foundation	44	1.6	Basic research on cognitive and social development
Total	4,998	474.1	

Note. Data from Hertz (Note 1). Other sources of data include the National Science Foundation's division of Science Resources Studies, which tracks federal funds for research and development (R&D); the National Academy of Sciences, whose operating arm, the National Research Council (NAS/NRC), has a Commission on Human Resources studying scientific personnel; the NAS/NRC's Assembly of Behavioral and Social Sciences, which administers a Committee on Child Development Research and Public Policy; and other committees whose work is relevant to research on children.

^a Fiscal Year 1977.

^b Data were not available at the time this table was prepared.

basic research and the physical and biological to the behavioral and social sciences. Research on children is treated like research in the behavioral and social sciences generally. The Social Research Group data show a ratio of applied to basic research of about 2:1; the same ratio holds in psychology and the social sciences (Kiesler & Turner, Note 5). Also, in both sets of data, health-related research is more likely to be basic research than is education-related research.

The allocation of research funds to each discipline is relatively stable over time and is not large in the behavioral and social sciences (see, e.g., National Academy of Sciences, Note 6). Behavioral and social scientists conducting research on children fare less well in obtaining research support than do other scientists who conduct research on children. To illustrate, of the recent doctoral recipients who conduct research, 68% of the developmental biologists received federal support in 1977, whereas only 34% of the developmental psychologists received federal funds for their research (National Research Council, 1977). Hence the per capita research support for psychologists who study children is half that of the biological scientists who study children.

Policy Areas

Conceptual and operating distinctions arise among agencies that have in common policy areas or functions, such as education, health, welfare, and science. An analysis of year-to-year trends (Kiesler, in press) shows that *within* policy areas, the pattern of support for research on children resembles the pattern of support for other areas of research. The correlations for matched programs falling within the same policy area for 1972-1977 range from .26 to .66. In contrast, the funding of research programs for children *across* policy areas is negatively correlated; that is, when research in one policy area is better funded, another area suffers. Do we trade research on education for research on juvenile justice, research on children's health for research on children's safety?

Fragmented and *uncoordinated* are words that some use to describe the situation, but these words mislead. In practice, government programs loosely fit a problem-oriented model (see Cohen, March, & Olsen, 1972). Planners are usually preoccupied with important social and political problems; only incidentally do they ask questions that pertain to how we can help children in general or to scien-

TABLE 2

Subjects of Primary Interest in R&D on Children and Adolescents, 1977^a

Primary topic of R&D	Age studied	
	Early childhood (%)	Adolescence (%)
Development ^b	21.4	14.9
Family and social environment	4.8	6.7
Health and welfare services ^c	11.7	11.6
Education ^d	58.7	62.5
Juvenile justice	.4	1.2
Research methods	3.0	3.1
Total	100.0	100.0
Total number of projects	3,664	3,440

Note. Data from Hertz (Note 1) and Berkeley (Note 4). R&D = research and development.

^a Fiscal Year 1977.

^b Studies of physical development account for 40% of all developmental projects.

^c These projects are primarily health-related applied research; of 827 counted, only 30 are studies of day care.

^d Many demonstration projects (2,065) and evaluation studies (191) are included; only 30 listed projects are basic research.

tific issues. The result is a de facto policy for children and for research which is based on current emphases on selected social problems.

De facto research policy is often a by-product of political definitions of social problems or choices of putative solutions. A research program on children may arise from arguments about whether to give cash or services to a group or whether the economy needs more stimulation (e.g., Crecine & Linett, Note 7). And from year to year the selection of social problems changes, reallocating funds for children's research from one policy area to another.

How We Arrived Where We Are Today: Federal Needs and R&D

National crises and acute political pressures on the federal establishment have influenced the situations it has chosen to study or improve. Various objectives such as "science literacy," new methods of soliciting or procuring research such as sole-source contracting, and topical concentrations such as minority achievement materialized during periods of duress and controversy. Hence, crisis and conflict are a cause of de facto policy.

The modern practice of negotiated, flexible contracting evolved during wartime, when a great deal had to be accomplished quickly (Danhof, 1968). By World War II negotiated contracts for research

were used to great advantage, and the idea had spread to behavioral science as well. Military departments needed research on the testing and placement of personnel, on racial integration in the armed forces, on propaganda, stress, and human engineering. They not only mobilized behavioral scientists and their laboratories but also informally negotiated contracts for research on these topics at universities.

After the war, military agencies continued to support extramural research. The Office of Naval Research (ONR) acquired a reputation for the quality of its projects and its easy style of management. ONR research managers sought out excellent researchers and negotiated flexible contracts with them. Some fields, such as psychometrics and personnel selection, owe many of their early achievements to this brand of R&D. During the late 1960s, however, congressional objections to research not demonstrably relevant to military needs led to the reduction and narrowing of flexible contracts for research in the behavioral sciences. In some areas of quantitative, social, and experimental psychology, researchers had to look elsewhere for support, satisfy new procedural requirements, and change direction or find different justification for their research.

Some moved into educational research, which had already enlarged its following after the launching of *Sputnik I* and the peak of the birth rate in 1957. The Soviet demonstration of superiority in space produced a massive infusion of funds into applied science and the development of science education curricula. The baby boom created a more generalized demand for schools, teachers, and research in education.

The success of the American space program made a deep impression on government officials. The orchestration it required convinced nearly all the domestic agencies that their R&D programs would benefit from greater centralized planning, top-down management, and technological solutions.

The Office of Education tried to manage research in education as though methods used by the National Aeronautics and Space Administration (NASA) for developing technologies on schedule might apply with equal efficiency to improving achievement in schools. In education, the NASA style of R&D was politically attractive because of its emphasis on bureaucratic control of programs and specific objectives. Public approval of federal aid to education has never been undifferentiated.

Programs have succeeded politically when special constituencies have backed them. Targeting R&D helped gain support for programs and made sense of their goals.

By the early 1970s, the persistence and depth of educational problems had worn down the belief in their quick solution. Innovations predicated on step-by-step "research, development, and utilization" began calling to mind the lunar landing less frequently than they did the Hawthorne effect. Agencies that support educational research on children still aim many programs narrowly; they are often congressionally mandated to do so. Officials and legislators prefer applied and evaluation research and demonstrations to basic research. But the failure of linear models of research and a reawakened respect for basic research seem to have moderated the thinking and plans of R&D managers in the education agencies.

Another large proportion of research on children falls within the mental health and health policy areas and shares a history with biomedical research (see Strickland, 1972). Before World War II most biomedical research and basic research was carried out in hospitals and universities with private support. In 1930 the federal government supported less than 15% of all R&D expenditures in health and basic science. The war in Europe and Japan, however, meant that we could no longer import basic advances in science or rely on private sources for medical and engineering innovations. In 1941 an Office of Scientific Research and Development was established to initiate and support research related to the defense effort. Thus began the tremendous mobilization of scientists during which the United States reached world preeminence in defense, atomic energy, medicine, and the sciences by the end of the war.

After World War II most federal officials and scientists agreed that the federal government should continue to support scientific research. The United States had to be prepared for possible mobilization in the future, and researchers who had worked on military problems were eager for employment as scientists. University research and teaching attracted many, and the demand for faculty was high. Great numbers of new high school graduates and veterans filled the colleges and universities. Today's National Institutes of Health (NIH), National Institute of Mental Health, and National Science Foundation evolved in part from these forces.

Most of the health mission agencies organized themselves around diseases or health problems, leaving no agency responsible for the scientific disciplines. In a report to President Roosevelt, entitled *The Endless Frontier*, a committee of scientists argued the merits of a federal agency to support basic research. They wrote, "Applied research invariably drives out pure." Scientists lobbied for grants for academic research, for a system based on unsolicited proposals, and for freedom from political pressures. They insisted on peer review and advisory groups. By the late 1950s, these ideas had taken hold of federal programs in health, mental health, and basic science, and they remain a common heritage of research on children in those areas of policy.

The National Institute of Child Health and Human Development (NICHD) was established during the Kennedy era of new frontiers. At first it seemed that the Institute would carry out research on the health problems of children, ballast for the new NIH programs in aging. NIH officials objected because the other institutes already revolved around sets of diseases or medical needs and encompassed all age groups. NICHD was therefore mandated to take a broader look at child health in the context of human development (Steiner, 1976). This organizational design seems to have worked surprisingly well in light of continuous pressures to focus on particular problems such as retardation, sudden infant death syndrome, and teenage pregnancy.

Advocacy and Professional Groups

Historians claim that during the approximate period 1880–1917, childhood became a social issue (Bremner, 1970, 1971; Platt, 1969; Takanishi, 1978). Social reformers attached new concepts of what a child is, what a child needs, and what a child deserves to their organized efforts on behalf of social justice, subsidized expertise, and government intervention. Among their demands were child labor laws, universal education, children's hospitals, the pasteurization of milk, and public playgrounds. They succeeded not only in improving the welfare of children but in stimulating the development of specialized and professional experts on children. Implicit and explicit pressures from the new professions contributed to the partitioning of government programs for children and to de facto research policies.

During the 19th century and through the first decade of this century, political activists (among whom we find the forerunners of modern developmental and clinical psychologists, child psychiatrists, pediatricians, social workers, and educators) lobbied on behalf of mothers and children for a children's policy. One of their successes was the Children's Bureau, established by Congress in 1912, "to investigate and report upon all matters pertaining to the welfare of children and child life among all classes of our people." In 1913 the bureau carried out the first major federal study of causes of infant mortality. In 1914 it published the first of its best-selling bulletins, *Infant Care*. In the 1920s it administered the Sheppard-Towner Act (1921–1929), a combination of advice giving and grants to states and cities so that they could establish maternal and infant hygiene programs. The staff of the Bureau were busy. They organized classes for black midwives in the South, answered letters from mothers isolated on ranches, carried out extensive surveys of slum and immigrant children, and helped set up state health and welfare agencies (Bremner, 1971; Eliot, 1962).

The flexible and multiple service approach of the Children's Bureau did not survive, and the Bureau gradually lost functions and influence. By the 1960s it had been moved from the Department of Labor to the Department of Health, Education, and Welfare and demoted. It has continued to administer traditional programs in child welfare and foster care alongside the huge Head Start program within the Office of Child Development.

The demise of influence of the Children's Bureau paralleled the increasing independence and strength of its former constituency. Over the century, political reformists, muckrakers, and the new children's professionals—superintendents, principals, teachers, pediatricians, psychiatrists, psychologists, juvenile court judges, social workers—devised their own associations and government programs.

Lynn (Note 8) has pointed out that federal programs to benefit various groups have been generous only when there exist "producers" who provide specialized services or resources—teachers supporting aid to education, social workers supporting expanded social services, home builders supporting housing assistance, farmers supporting commodity distribution. The professionalization of children's research probably had like effect. Research programs flourished where areas of expertise could be identified to carry them out—child

psychiatry and clinical psychology for the study of disturbed children, pediatrics for research on childhood disease, developmental psychology for understanding normal and abnormal growth. Specialization, therefore, contributed to de facto policy and the "fragmentation" of children's services and research.

The modern professionals also created a labor market and (economic) demand for research positions and support. The professions that gained greater status or whose credentials were more difficult to obtain also acquired greater control of federal R&D programs. The American Medical Association is perhaps the most powerful of professional groups, and physicians surely control the bulk of biomedical research. Among the mental health professionals, psychiatrists earn the most money and prestige; they also hold the most prominent positions in the National Institute of Mental Health. In education, the claims are less clear, but professors in schools of education and elsewhere usually receive more of the resources to study elementary and secondary education than teachers do. The higher the prestige of the dominant providers of services to children in a policy area, the more likely it is that research funds in that area are awarded noncompetitively.

Research Policy and Knowledge

Research itself is one of the forces that shapes government policies for children's programs and research. Research influences the way people think. For example:

In the 1960's, the political pressures focused strongly upon the social problems produced by school failure. One avenue of social action might well have been influenced by the view that children fail in school because there is something wrong with the teaching in the school; therefore, let us fix the teaching and the school; an alternative view was that children fail in school because there is something wrong with the child and the child's background; therefore let us fix the background and the child. Why? As Clarke and Clarke [1977] have pointed out in their book *Early Experience: Myth and Evidence* the answer lies partly in the zeitgeist of deeply rooted beliefs about human development—namely that early experiences are special experiences—they not only lay the foundation for later development but they have a disproportionate impact upon the course of development. In the 1960's the zeitgeist was supported by data and by fresh speculation. (Horowitz, in press)

Is it any less likely that government policies affect research directions? Have researchers focused heavily on cognitive rather than social and emotional development because of the twin federal concerns with physical health and schooling and

thus with problems of mental retardation and cognitive achievement? Did the Kennedy-Johnson programs, intended to improve children's early environments, stimulate the resurgence of scientific interest in heredity-environment issues? Did tax and other policies that institutionalized traditional female roles contribute to the emphasis on maternal behavior (Weiss, 1978)? Did the separation of education from health policy have anything to do with the separation of educational research from human developmental research? Perhaps some scientific questions in research on children have been influenced by the history and pattern of government intervention.

Federal research policies are at least charitable, democratic, and in keeping with American traditions. To focus on specific problems of special interest groups is to respect forbearance and political clout. To want research to lead to improvements of services gives weight to the potential of social welfare programs. To have government involved at all in research on children implies a belief in individuals rising above their social background and physical handicaps.

Government may even have improved the quality of research on children. The behavior and world of children is among the most exacting and exciting of scientific topics, and scholars have attained much in a short time. These modern advances of knowledge required perseverance, patience, stimulating research environments, and continuing financial support. Federal agencies have contributed more than money; they have taken special responsibility for particular lines of research. Had our political organizations been less mission oriented, less attuned to their constituencies, and less likely to parcel sponsorship of research among themselves, perhaps much less would have been accomplished.

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