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ABSTRACT

This report analyzes early childhood research activities supported by the Interagency Panel on Early Childhood Research and Development during the 1974 fiscal year, and identifies trends and shifts in the agencies' research plans. The report is composed of five chapters which contain the following: (1) information about the historical background, operational structure, and 1974 fiscal year activities of the Interagency Panel; (2) a summary review of current areas of emphasis within the field of early childhood (applied, basic, global, longitudinal, and beneficial research, research on the research process, the developmental process, and the family, community, and society); (3) information about the distribution of early childhood research across agencies; (4) examination of the research programs of individual agencies; and (5) tentative plans and priorities of the agencies for the 1975 fiscal year and beyond. Numerous charts and tables present the report's information in concise form. A list of the documents prepared for the Interagency Panels on Early Childhood and Adolescence Research and Development since 1973 and other related information are included in the appendixes. (ED)

TOWARD INTERAGENCY COORDINATION:

An Overview of FY '74 Federal Research and Development Activities Relating to Early Childhood

Fourth Annual Report

Prepared for
The Interagency Panel on
Early Childhood Research and Development

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December, 1974

Participating Member Agencies of the Interagency Panel on Early Childhood Research and Development

Department of Health, Education and Welfare (DHEW)

- Office of Human Development (OHD)
- Office of Child Development (OCD)
- Office of the Assistant Secretary for Planning and Evaluation (OASPE)
- National Institute of Child Health and Human Development (NICHD)
- National Institute of Mental Health (NIMH)
- National Institute of Neurological Diseases and Stroke (NINDS)
- Social and Rehabilitation Service (SRS)
- Bureau of Community Health Services (BCHS)
- Office of Education (OE)
- National Institute of Education (NIE)

Department of Agriculture (USDA)

Department of Housing and Urban Development (HUD)

Department of Labor (DOL)

Office of Management and Budget (OMB)

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CHAPTER I

THE INTERAGENCY PANEL ON EARLY CHILDHOOD RESEARCH AND DEVELOPMENT

Early childhood research is in a state of flux, stimulated by dissatisfaction with traditional scientific paradigms and fanned by "severe professional and social crosswinds" (Korman, 1974, p.441). The research status quo is being battered from within and without, as a result of significant and often dramatic shifts that are occurring in theoretical and methodological orientations, in the social and political roles (and power) of minority groups, women and children, in the nation's economic conditions, and in the general climate for research. Special interest groups are taking a more active role in defining the ground rules for participation in research (Dusek, 1974, p.21), the ethics of research practices are being subjected to close public examination, and evaluation and accountability are in the air (Rause, 1974, p.678; Sears, in press, p.85).

In the face of these new pressures, the task of sorting out priorities and identifying gaps and imbalances is even more difficult for those who plan, support and undertake research. Clearly essential to this process is the capacity to put together the diverse bits and pieces of our national research effort into a clear, cohesive picture. The Federal government's extensive and far-ranging early childhood research and development endeavors are supported and administered through a variety of agencies, however. While these agencies share a general interest in early childhood research, their particular goals and legislative mandates often differ considerably, thus compounding the problems involved in the exchange of information across bureaucracies--problems which would be formidable even under the most ideal circumstances. More vital than ever is a formal means by which agencies can pool their knowledge and communicate with each other about their current and planned research activities.

Historical Background

In 1970, the Interagency Panel on Early Childhood Research and Devel-

opment was convened by the Director of the Office of Child Development at the request of the Secretary of the Department of Health, Education and Welfare and the Director of the Office of Management and Budget. The primary mission of the Panel is to facilitate Federal interagency coordination and cooperation in the planning, funding and analysis of early childhood research and development (covering the age range of prenatal through nine years). The Early Childhood Panel served as an organizational model for another Panel, which was created in 1972 and similarly charged with promoting cooperation and exchange of information between Federal agencies who support work on youth and adolescents. The Interagency Panel for Research and Development on Adolescence, whose age coverage extends from ten years through adolescence and into the early twenties, carries out its tasks in close cooperation with the Early Childhood Panel. The two Panels share information about the progress of their regular meetings, in which members discuss their agencies' research programs and plans, and diverse problems and issues of interagency concern. Furthermore, in cases where their interests coincide, the Panels participate jointly in special meetings and activities.

Operational Structure

The Panels draw their members from the Departments of Agriculture; Defense; Health, Education and Welfare; Housing and Urban Development; and Labor. They are chaired by Dr. Edith H. Grotberg, of the Office of Child Development, and are provided general research and support services by the Information Secretariat, established within the Office of Child Development in 1971, and by a contract with the Social Research Group at The George Washington University. The Office of Child Development furnishes the bulk of the contract funds, which are also contributed to by the other member agencies. A diagram of the basic organization of the Interagency Panels is presented in Figure 1. The individuals who currently represent their agencies on the Panel are listed in Appendix A.

The support system at the Social Research Group has five major functions:[1]

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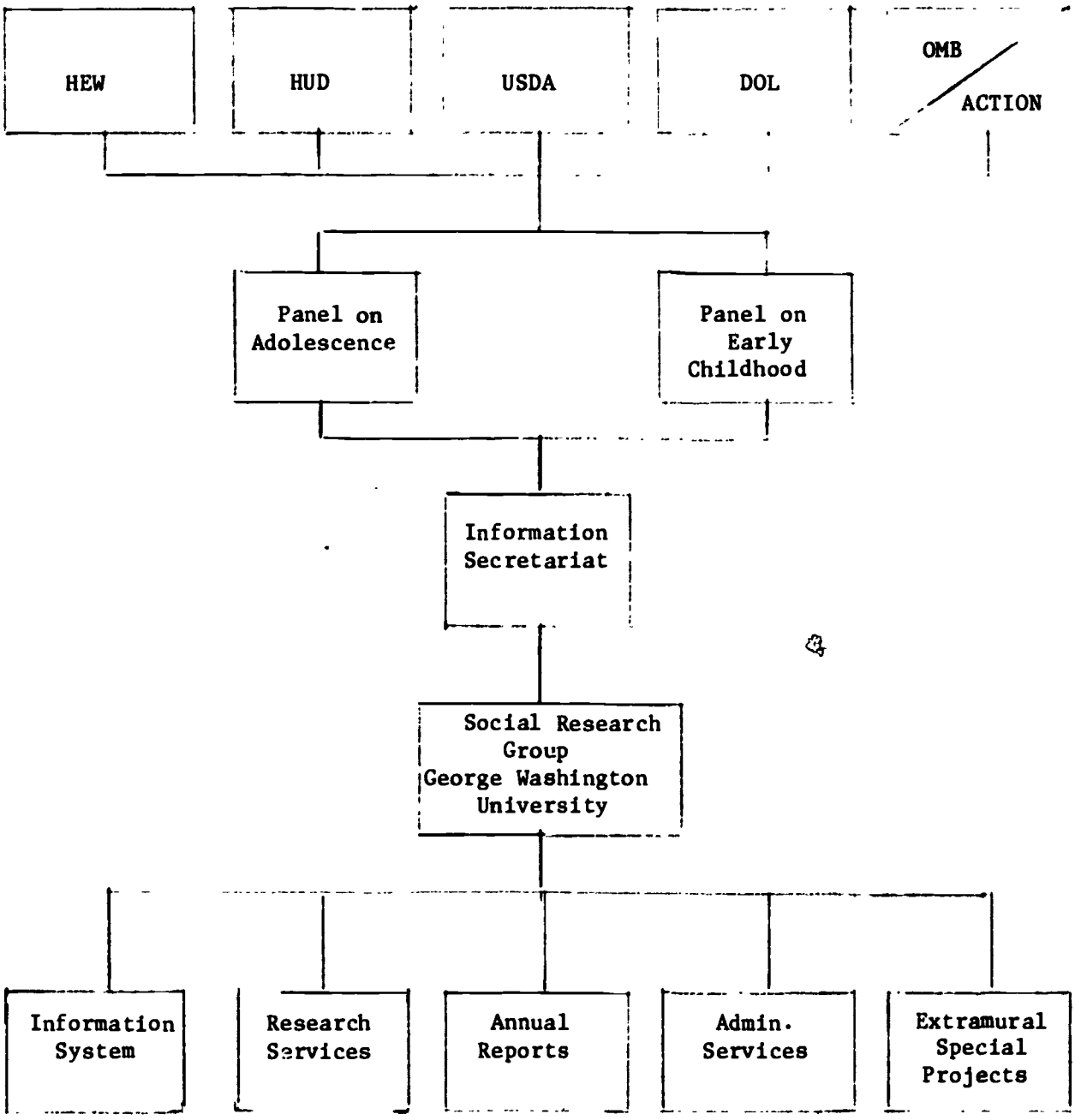
[1]This description of the support system of the Social Research Group for the most part is taken from a paper presented by Dr. Maure Hurt, Jr., at the meeting of the American Educational Research Association, April, 1974.

Figure 1

Organizational Chart of the Interagency Panels



Source: Hurt, 1974b.

(1) the information system; (2) research services; (3) annual reports; (4) administrative services; and (5) extramural special projects.

At the close of each fiscal year, a team of staff members collects information from agency files about the individual research projects active during that year. The team prepares an abstract of each project, and classifies and codes salient aspects of the approach, procedure and content area of the project, using a system developed by the Social Research Group in conjunction with the Panels. The coded information is entered into a computerized data bank, which is available for use by Panel members and which provides important data for the Annual Reports and other documents. (The information system and the data collection process are described further in Chapter III and Appendix B.) As part of its research service, the Social Research Group undertakes for the Panel: state-of-the-art papers, position papers, library research studies, presentations at meetings of professional associations, reports of site visits to demonstration projects, and surveys of the member agencies' viewpoints on selected issues. (For instance, in 1973 a survey of agency considerations and concerns with regard to research on the family was prepared.) A major publication of each of the Panels is the Annual Report, the objectives and form of which are described at the end of this chapter. The Social Research Group also provides administrative support, which is especially critical in the dissemination of information both to the Panel membership and to outside groups and individuals. Extramural projects are occasionally undertaken to meet the Panel's need to collaborate and confer with individuals having expertise in a broad spectrum of research and professional domains.

Activities of the Interagency Panel during FY '74

Convening on a regular basis throughout the year, Panel members continued to examine the planning and funding of Federal programs in early childhood, toward the end of identifying areas of need and developing strategies to meet those needs. The staff of the Social Research Group supplemented these Panel efforts by preparing a variety of working papers, publications and research analyses. For instance, an overview of the past

five years of research on child abuse and neglect was completed, which included an annotated bibliography on demonstration and research projects in this area (Hurt, in press).

Expanded horizons. FY '74 was a period of significant growth for the Interagency Panels, not only in terms of their capability to collect and analyze information about ongoing research projects, but also in terms of the boundaries of their involvement in Federal and non-Federal research communities. Much of the Panel's attention was given to issues that had been given preliminary consideration in a series of special interest area meetings initiated during FY '73. Focused on areas to which member agencies are making substantial funding commitments (or are likely to do so), these special meetings are open to all members of the Panels and to other concerned individuals from Federal agencies. They have covered topics ranging from home-focused programs, to longitudinal intervention research, to marker variables and comparability in research. In FY '73 selected specialists were invited to share their expertise with the other participants in initial exploration of basic problems and issues in these areas. During FY '74, the Panel followed up these earlier meetings with wider-angled outreach activities designed to involve the full breadth of the Federal and non-Federal research establishments in the development of solutions to some of the major problems that had been delineated. For example, editors of major journals publishing research on children and youth were invited to Washington to participate in a conference on comparability in research, which will be described in more detail below.

In a similar fashion, the Panel has carried further its central interest in research on the family as an organizational theme for interagency coordination, by bringing together a large number of researchers from around the country, for a two-day conference with Federal researchers and planners.

The Panel has also expanded its potential for communication and cooperation at the international level through the contacts of its chairperson, Dr. Grotberg, with representatives of UNESCO and the International Children's Center. Both of these organizations work at the international level to foster coordination and the exchange of information on children's research. The International Children's Center also maintains an extensive international library, conducts some longitudinal studies, and aids developing countries in establishing health and other services for children. Dr. Grotberg explained

the Panel's structure and role as a catalyst for coordinated research planning in a recent article for Courrier, a publication of the International Children's Center. At one of the Panel's meetings, Dr. Gilbert P. Austin of the University of Maryland, who was active in the Organization for Economic Cooperation and Development where he conducted an international evaluation for the Center for Education Research and Innovation, discussed the coordination of research on early childhood education at the international level.

In FY '74, the Panels increased the scope of their participation in meetings of professional associations, both through formal presentations and symposia, and, on individual Panel members' own initiative, through informal discussions between colleagues. Activities have been sponsored at the meetings of the American Psychological Association in 1973 and 1974, at meetings of the Eastern Psychological Association and the American Educational Research Association in 1974, and further papers and discussions are planned for upcoming meetings of other organizations.

At the April meeting of the American Educational Research Association, Dr. Edith Grotberg chaired a session on the Interagency Panels at which papers were presented by: Joseph M. Bobbitt, Assistant Director for Behavioral Sciences, National Institute for Child Health and Human Development; Lois-ellin Datta, Career Education Program, National Institute of Education; Maure Hurt, Jr., Social Research Group, The George Washington University; David Pearl, Chief, Behavioral Sciences Branch, National Institute of Mental Health; and Deborah Walker, Office of the Assistant Secretary for Planning and Evaluation, DHEW. The participants expounded the rationale for the formation of the Panels and their accomplishments to date. The implications of Panel activities for the Federal and research communities were demarcated by Dr. Datta, who pointed out that these activities have served many functions in Federal research planning, which include among others: identifying areas where funds are scarce (and assessing the importance of these gaps); providing the information necessary for equitable allocation of funds among priorities; regulating overlap by promoting cross-agency support of research projects; improving institutional memory and foresight; increasing the efficiency of agency information gathering; and endorsing

the synthesis of research knowledge as a countermeasure to the prevailing tides of bureaucratic categorization and pigeon-holing. Panel activities also can benefit the research community by: making available rapid, accurate information on who is funding what kind of research; facilitating a match between the researcher's ideas and an appropriate source of support; disseminating information about research in progress; serving as a central source of information about funding situations, conferences, new publications, etc.; providing substantive leadership in research, (as the Panels have begun to do, for instance, in the areas of longitudinal approaches and comparability.) Finally, Dr. Datta pointed out that the Panels' activities offer an additional opportunity for researchers and Federal research administrators to work together in assuming a shared responsibility for: expenditure of Federal funds; leadership in establishing research priorities; advocacy of research-related actions which will enhance the public good.

In sum, during FY '74 the Panel tried to extend to a wider audience of research administrators, investigators and consumers, both the responsibilities and the benefits of communication and cooperation in research planning and utilization. The scope of the activities described here will be amplified by the Panel in the coming year, and efforts along other lines will be taken up. For instance, the Panel will try to enlarge the few initial contacts it has made with private foundations in order to involve them more meaningfully in its attempt to achieve a picture of the overall pattern of early childhood research funding in the nation.

Family research. Prior to FY '74, the Social Research Group interviewed representatives of the member agencies in order to identify research questions pertaining to the family which fell within the agencies' legislative mandates and within the actual or potential focus of their support. On the basis of these interviews, the Panel produced and distributed to directors of agencies a statement on specific issues and research questions, to be used in the formulation of policies and plans for funding research on the family.

In order to further delineate research priorities and problems in this general area, the Panel convened the Conference on Family Research on March 4 and 5, 1974. Held in Washington, D.C., the meetings were attended by family researchers and practitioners, foundation representatives, members of the Interagency Panels, and other interested researchers and administrators from

ti. . ral agencies. (See Appendix C for a list of those who participated in the Conference.) Among the many disciplines represented by the participants were psychology, sociology, anthropology, psychiatry, economics, education and pediatrics. After listening to keynote addresses by Margaret Mead, Curator Emeritus of Ethnology, American Museum of Natural History, and Stanley B. Thomas, Jr., Assistant Secretary for Human Development, Department of Health, Education and Welfare, the Conference participants separated into smaller groups to discuss broad aspects of family research. The work groups, which met in two half-day sessions, were: (1) family functioning, moderated by Lois-ellin Datta, NIE; (2) emerging family forms and life styles, moderated by David Pearl, NIMH; (3) cultural pluralism, moderated by Rosa Clausell, OCD; (4) ethics and family research, moderated by Joseph S. Drage, NINDS. At the conclusion of the conference the participants reassembled in a plenary session to consider as a group the recommendations and views that were aired in the individual workgroups. Some of the highlights of the discussions are presented in the next chapter of this report. The proceedings of the Conference (Hertz & Hertz, 1974) are also available and have been widely distributed to members of the research community, to Federal researchers and administrators, and to agency directors.

Comparability in research. The Panels' interest in this issue stems from concern at the Federal level that even where research projects ostensibly focus on similar problem areas, their findings often fail to add up to anything. Clearly, empirically derived information needs to be cumulative if it is to provide a broad basis for social policy plans and decisions and for advances in scientific knowledge. One factor on which the analysis and synthesis of research findings hinge, is the degree to which the concepts, measures and procedures used by different investigators are comparable. Meaningful cross-study analyses of findings are difficult, if not impossible, when there is no way to determine the relation between the different variables and methods that were used to generate those findings. The problem is contributed to by the understandable inclination of many researchers to develop new terms and measures, with an eye toward the needs and constraints of their own research situations rather than the overall pattern of research in a general area.

Building on activities undertaken in FY '73 (which included a series of

special interest meetings and working papers), Panel members concentrated in FY '74 on setting forth concrete steps toward improving comparability that could be initiated by individuals and groups at several levels of the Federal government and research community. The substance of some of these steps, and their underlying rationale, is discussed in the next chapter in the section on the research process.

At a special interest meeting in November, 1973, Dr. Paul Jehlik and Dr. Bruce Beacher of the United States Department of Agriculture described their agency's system of cooperative research, in which participating researchers agree on common definitions and measures. While this model pertains primarily to collaborative research efforts, rather than to individually sponsored projects, many diverse approaches to facilitating comparability were considered at other Panel meetings held throughout the year. Questions, conclusions and recommendations that have emerged from the Panels' deliberations have been disseminated to Federal and non-Federal groups in a variety of ways.

As one major action, the Panels sent to directors of member agencies a statement outlining general issues and guidelines for increasing comparability. A number of agencies have already used this document as a springboard for their own in-house critiques, and others have indicated interest in further input from the Panels on this matter.

Panel members have tried to reach the research community at large through discussions and presentations at meetings of the professional associations. Questions about comparability in research were touched on in presentations at the American Educational Research Association meetings in April, 1974, and at both the 1973 and 1974 meetings of the American Psychological Association. At the most recent APA meeting in New Orleans, three papers (Bell & Hertz, 1974; Hurt, 1974b; Pearl, 1974) were presented in a symposium on comparability and cross-result analyses in social science research, moderated by Edith Grotberg. Maure Hurt, Jr., delivered a progress report on the Panel's efforts to promote increased comparability in research. Richard Bell, who had been Chief of the Child Research Branch, NIMH, before joining the Department of Psychology at the University of Virginia, discussed the rate of research progress in the context of societal change, and pointed up some possible mechanisms for accelerating the accumulation of usable scientific information.

David Pearl described some NIMH initiatives in furthering cumulative knowledge, and in particular one of the agency's most ambitious current catalytic efforts, which involves an ongoing series of successive workshops aimed at promoting the clarification of concepts and the use of marker variables in the research area of locus of control.

A workshop along similar lines will be held at the 52nd Annual Meeting of the American Orthopsychiatric Association, in March, 1975, and proposals for a paper presentation and round-table discussion have been submitted for the 1975 meeting of the American Psychological Association.

Actions have been taken to incorporate another primary mechanism of scientific communication--the professional and research journals--into the Panel's activities. A statement about comparability in research was sent to journals to advise them of the Panel's efforts and plans, and a number of editors were invited to participate in a round-table discussion with Panel members and other representatives of the Federal agencies. Fourteen editors attended the November 4th meeting, representing journals from diverse research fields, such as developmental psychology, sociology, education, pediatrics, adolescence, and community psychology. (See Appendix D for a list of participants.) The proceedings of the conference are currently in preparation.

Finally, taking advantage of their refined information system, the Panels have initiated a series of in-depth assessments of the potential for comparability in selected areas of research currently funded by member agencies. An analysis of family research projects supported by the Office of Child Development has already been completed (Hurt, 1974a) and a similar review of projects funded by the member agencies in the area of parenting skills is underway.

Organization of the Annual Report

The major purposes of this fourth annual report are to analyze early childhood research activities supported by the member agencies during FY '74, and to identify trends and shifts in the agencies' research plans.

Information about the historical background, operational structure, and FY '74 activities of the Interagency Panel has been presented in this chapter. Chapter II contains a summary review of current areas of emphasis within the

field of early childhood, as an organizational framework for the analyses of research activity that follow in Chapters III and IV. In Chapter III information about the distribution of early childhood research across agencies is presented, and in Chapter IV the research programs of individual agencies are examined. Tentative plans and priorities of the agencies for FY '75 and beyond are described in Chapter V.

Research programs supported and planned during the fiscal years 1971, 1972, and 1973 have been analyzed in the Panel's previous annual reports (Grotberg, Searcy & Sowder, 1972; Hertz, Harrell, & Grotberg, 1973; Stearns, Searcy & Rosenfeld, 1971).

CHAPTER II

EARLY CHILDHOOD RESEARCH NEEDS

As part of their efforts to increase the coordination of Federal funding of early childhood research and development, the members of the Interagency Panel examine the planning and funding activities of the agencies, in order to assess progress towards meeting research needs and in order to suggest new research directions and emphases. The Panel has identified a variety of research categories and approaches as a way of articulating the gaps and imbalances that exist within the field of early childhood. The areas and approaches that have been judged by the Panel to be promising and in need of increased support (or continued support if already the focus of significant activity and interest) will be discussed briefly in this chapter and their current status and significance in early childhood research and development will be considered. In the discussion of these general categories, no attempt is made to present a comprehensive survey of research issues and questions in the field of early childhood. More detailed discussions of particular needs and questions within these general areas can be found in the annual reports and state-of-the-art documents previously prepared for the Interagency Panel. (See Appendix E.)

The key categories which will provide an organizational framework for the analysis of early childhood research and development activities are: (1) applied and basic research; (2) global research; (3) research to benefit all children; (4) longitudinal research; (5) research on the research process; (6) the developmental process; (7) the family; and (8) the community and society.

Applied and Basic Research

In identifying needs and gaps in early childhood research, the Panel has proceeded on the premise that a balanced representation of basic research and applied or policy-related research is necessary if our overall research enterprise is to remain viable and productive over the long term. In its activities,

documents, and annual reports, the Panel has tried to establish frameworks for analysis and coordination that encompass a heterogeneous mix of research efforts covering the gamut of investigative approaches--from the laboratory experiment designed to shed light on an abstract point of theory, to large-scale evaluations of intervention programs that can provide bases for social policy decisions. In this respect, the Panel's views are in concordance with views long held in both the government and the research community.

Historically, child development practitioners and researchers of all persuasions have acknowledged that basic scientific inquiry and more pragmatic activities directed toward the solution of particular social problems can and should be intertwined as a field of research evolves. Nonetheless, while the field of child development perhaps has been notably free of "divisive debates about the relative merits of 'basic' and 'applied' research" (Caldwell & Ricciuti, 1973, p. vii) demands for research with "social relevance" have increased markedly over recent years. Pressures for research that bears more directly on real problems or on social action programs stem from many sources, both within and outside the research community proper. The activities of researchers and funding agencies have received closer scrutiny by tax-payers and legislators who ask for greater evidence of research payoff, measured in terms of visible social change and progress and often from a consideration of cost-productivity and accountability. Dissatisfaction with traditional approaches to research and its implementation is also evident within the ranks of child development researchers and practitioners themselves. A recent survey (Lipsey, 1974) of students and faculty in graduate departments of psychology (a discipline central to early childhood research) indicated that of those who responded, 50% of the students and 47% of the faculty identified some aspect of relevance as the "most important issue confronting contemporary psychology" (p. 542). Lipsey found that:

> A large majority of both students and faculty felt that the discipline should be contributing to the solution of social problems, but an equally large majority felt that at present it was making no important contribution . . . If the students and young faculty retain their present attitudes as they mature in the discipline, the relevance cause will be sailing under an increasingly high wind for many years to come. (p.553)

Inevitably, the clamor for relevance has heightened tensions that are inherent in a field, such as child development, drawn from many disparate scientific, educational, and service-oriented domains. As a result, the argumentation that can always be found within and between factions of the research community has intensified. While in some cases old positions have simply become more entrenched, for the most part this increased exchange of views has brought with it a healthy and constructive self-examination of our methodological, theoretical and even ideological approaches to research. Significantly, controversies that have surfaced in journals and meetings of professional associations have been relatively free of advocacy for the transfer of support from basic to applied research or vice versa. More at issue seems to be the particular steps that need to be taken to build a more productive relationship between basic and applied endeavors, and to insure that the methods used in each kind of research are suited to the task. For instance, at the heart of the relevance issue is the question of how to narrow the schism between the experimentalist and the practitioner/researcher--too often each finds it difficult to use or build on the work of the other. Not surprisingly, conflicting solutions to this problem have been proposed. Hamm (1974) suggests that the conflict between pure and applied social science would be diminished if the applied scientist were to move away from reliance on rationalism and intuition towards the empiricism and objectivity of the experimentalist. In contrast, for many others the challenge is to develop new modes of research and training which can accommodate the special conditions and constraints that obtain in the delivery of professional services (Korman, 1974). Their dissatisfaction is not so much with traditional research methods per se, but with the monolithic use of these methods throughout the field. For example, some seek to augment statistical, experimental methods (suited to the laboratory) with radically new procedures for clinical, field or evaluative settings (Levine, 1974; Raush, 1974).

Debate about relevance will probably not be resolved soon or in a singular way satisfactory to all concerned. Nevertheless, it appears likely that its ultimate impact on the field will be more cohesive than divisive, if in the process investigators continue to search for ways to strengthen all branches of research, and are not sidetracked into counterproductive arguments about

which branch is most valuable. Indeed, in the minds of many, the continuing development of the field depends on the close interplay and coordination of basic and applied branches. As Sears (in press) points out:

> Child development is a reflection of the tremulous partnership that always seems to exist when pure and applied science, and the services of scientists, are directed toward fulfilling social rather than purely intellectual needs. Today's novitiates in the "science" of child development must not complain when they feel the heat of social demands put upon them. The field grew out of relevance. Its content and its multi-disciplinary structure are a product of the demands for social usefulness. Furthermore, there is some risk that it will fractionate into its component disciplines--and disappear as an entity in the world of science--if that relevance is not maintained. (p.2)

In summary, the quest for social relevance does not necessarily mean increased competition between basic and applied science; its ultimate benefits, in terms of advances in theory, method, and application, may be equally great for both branches. Furthermore, questions about applied and basic research have to be conceptualized within the context of a growing inclination to examine all aspects of the research process--its purposes, goals, methods, and even its limitations. These pressures for change take many forms. Heightened interest is evident not only in social relevance, but also in ecological, longitudinal and interdisciplinary approaches to research. Similarly, more attention is being given to the improvement of methodology, to the synthesis and integration of theories, concepts, and measures, and to the planning and dissemination of research in all areas of early childhood. Efforts along these various lines overlap and are interdependent; progress in one area is influenced by and in turn bears on work in the others. As is the case with social relevance, these topics cut across applied and basic branches of research. Moreover, if we strive for a relationship between basic and applied science that is synergistic rather than antagonistic, new orientations and advances in all of these areas and many more will be essential. As this will undoubtedly require the funding of large-scale, multifaceted research projects, the need for coordination among agencies and among researchers will be even greater.

Global Research

A predilection for "global" approaches has developed in tandem with concern for socially relevant research. Global is used here primarily to describe theoretical models and research strategies in which emphasis is placed not on isolated phenomena but on systems of phenomena in their natural contexts. Particular global approaches vary considerably, of course, and are not restricted to a specific content area or level of analysis (e.g., physiological, sociological). At the same time, at least two general categories of holistic studies can be discerned.

First, there is a trend toward studies of the whole child, in which attention is directed toward the interrelationships among the primary processes of cognitive, social and physical development. Such studies not only are promising from the standpoint of scientific knowledge and theory development, but they are crucial if we are to be able to meaningfully assess the full impact of intervention and social action programs.

Second, enthusiasm for ecological approaches has grown considerably. Much of our past research, especially (but not entirely) as conducted in the laboratory, has been ecologically invalid.

> By removing the child from the environment in which he ordinarily finds himself and placing him in another setting which is typically unfamiliar, short-lived, and devoid of the persons, objects, and experiences that have been central in his life, we are getting only a partial picture both of the child and his environment . . . the enduring aspects of the child's environment . . . [should be] brought into the laboratory setting. (Bronfenbrenner, 1973, pp. 8-9)

Even if experimental situations and tasks are chosen more judiciously, however, laboratory research will not be able to provide all of the answers that we seek. As Sears (in press) states: "experimental methods applied in the laboratory can only discover what antecedents can influence action or development. They can never determine what does." (p.82) If we are to deal effectively with complex social problems and needs, clearly we require substantial information about the interactions and relationships between children and other people and institutions within their environment. At present, however, there exists very little systematically acquired information about the child's behavior and development as it occurs within the natural context of the home and community. Research that has been undertaken in this direction with any degree of scientific rigor, in the main has been focused too narrowly and

has simply ignored many of the primary factors that dominate the child's environment. In the study of infant development, for instance, little attention has been given to the father, peers, relatives, and other individuals who interact with the infant, and even the mother-infant relationship typically has been treated as if it operated in only one direction, from the mother to the infant. Heartening changes in approaches to research are evident, however, in this area as in others. Investigators are looking at a wider scope of the infant's experiences in both the physical and the social environment (e.g., Eckerman & Rheingold, 1974; Cohen & Campos, 1974). Furthermore, more complex interactional situations are now being investigated (e.g., Osofsky & Danzger, 1974), a trend which is substantiated by the recent appearance of a group of readings concerned entirely with the reciprocal influence of the infant on its caregiver (Lewis & Rosenblum, 1974).

The various domains of the child's world do not exist independently, of course, and the conditions of one ecological system, such as the school or neighborhood, can be expected to influence the child's behavior in other systems as well. Accordingly, in our efforts both to identify antecedent conditions of behavior and development and to measure the effects of experimental interventions or natural occurrences, we need to look beyond the immediate context of the child's activities. In discussing the origins of alienation among children and youth, Bronfenbrenner (1974) points up the need to consider these complex interactions among ecological systems.

> Profound changes are taking place in the lives of America's children and young people. The institution that is at the center of these changes and that itself shows the most rapid and radical transformation is the American family, the major context in which a person grows up. The primary causes and consequences of change, however, lie outside the home. The causes are to be found in such unlikely quarters as business, urban planning and transportation systems; the ultimate effects of change are seen most frequently in American schools and--not as often but more disturbingly--in the courts, clinics and mental and penal institutions. (p.53)

The implications for social action programs are clear. Since the circumstances that contribute to a child's problems or needs are unlikely to be confined to one particular domain, such as the school or family, interventions and services that touch on single, isolated aspects of the child's environment also are unlikely to be effective, regardless of how well the program is designed or carried out. Thus agencies are moving in the direction of coordinating the

delivery of services, of directing their efforts toward not only the targeted children and families, but also the organizations and institutions that impact on them, and of assessing the combined impact of diverse social programs. These points will be discussed further in the section on the community and society.

Despite the apparent need for them, studies of the child's ecology are sparse. The problem is not so much that ecological approaches lack merit, but that they are difficult to implement. In a field where the long-term trend has been toward increased experimental rigor, research in naturalistic settings (e.g., Barker, 1968) has been the exception, because of the enormous difficulties involved. Many of our theoretical models and research designs and methods are simply not appropriate for the simultaneous investigation of multiple variables and systems. There is a need for refined conceptualizations of the significant dimensions of the human environment (e.g., see Insel & Moos, 1974; Kiritz & Moos, 1974; Moos, 1974) and for improved techniques of data collection and analysis, particularly in connection with observational methods. Finally, there are many practical problems that will have to be solved. Ecological studies will be large in scale, expensive, and will necessitate the collaboration and cooperation of multidisciplinary researchers. Investigators may often have to gear their research designs to the exigencies of social action programs, since, as explained in the final report of the Joint Commission (1970):

> Ongoing programs, such as those in preschools or in the experimental research and development centers . . . may provide ready access to information on children and their families which flows naturally from the operation of the programs and offers the advantage of access to naturalistic settings. . . There is also an economic advantage, since it is extremely expensive to set up action programs for the purposes of research only. Moreover, researchers are not generally prepared by training and experience to plan and administer action programs and might function more effectively in programs which are already in progress. (p. 448)

Research to Benefit All Children

Coordination between Federal agencies is especially critical with regard to the kind of populations that are targeted by research programs. Questions about the distribution of research pertain not only to approach and content area, but also to the targeted child's economic, social and ethnic background, age, and physical, social and cognitive ability or status.

Two problems in particular stand out as in need of attention. The first concerns straightforward imbalances in the kind of populations that are studied by researchers. Care must be taken that research effort is not aimed predominantly at a few specific types of populations, such as economically disadvantaged or minority group children. Similarly, information must be obtained about children of all ages and not just those who are readily available to researchers (e.g., because they are in public facilities). Despite the strong demand for recommendations on day care for very young children, toddlers between the ages of two and four still are relatively neglected in research (McCandless, in press).

A problem of a different sort concerns the way in which we study children with diverse backgrounds. In the recent Conference on Family Research, participants stressed the need for researchers to set aside ethnocentric approaches and to try to develop new methods by which ethnic and cultural variation can be investigated with as little bias as possible. While few disagree with this general goal, however, agreement about its implications for research procedure is not as easy to come by. Nevertheless, the need to develop research strategies that are not based on "deficit" models is widely acknowledged. Dusek (1974) elaborates on this issue:

> What is currently known of cognitive development in black children is based on comparative research, that is, research in which the performance of black children has been compared to the performance of white children. The emphasis in much of this research has been on what competencies black children do not have rather than on competencies possessed by black children. The typical end result of this comparative approach is that black children do "less well" than white children and are, therefore, inferior in development . . . One implication is that relatively little is learned about the general nature of cognitive development in black children . . . Of course, the same types of arguments may be made with respect to other ethnic groups or in regard to social class or other individual difference comparisons of development. The crucial point is not that comparative research of this nature should not be done, for that is up to the individual investigator. Rather, the value of noncomparative research strategies may go much further toward giving a more complete understanding of development than is possible with comparative strategies . . . For example, rather than research aimed at demonstrating gain in ability as a function of intervention programs, what is needed is support for research focused on identifying competencies and programs developed to match and build on these competencies. (pp. 20-21)

Longitudinal/Intervention Research

Longitudinal research, particularly as a means of assessing the impact of intervention programs, has been an important focal point of the Panel's activities. The practical problems peculiar to this kind of research (e.g., trying to maintain continuity in research projects in the face of changing factors such as social policy interests, Federal research priorities and commitments, and Federal agency and research project personnel) make interagency coordination and cooperation imperative. Nevertheless, despite the magnitude of the administrative difficulties, expense, and many scientific problems that are involved, the need for longitudinal research in the study of individual growth and development is clear:

> Cross-sectional studies which investigate the behavior and development of human beings at different ages and developmental periods fail to provide the information that we need on such factors as: the origins of disorders in human development, the continuity of such disorders throughout the life-span, the factors that affect these disorders in both positive and negative directions over a period of time, and the timing and sequence of various behaviors. (Joint Commission, p. 444)

Longitudinal studies have turned out to be limited in their own way, however, in terms of providing information about developmental phenomena. The basic problem is that not only do individuals change with time, but generations of individuals and society itself change, and thus also must be treated developmentally (Sears, in press, p.74). In the case of behavior change which is detected by conventional cross-sectional and longitudinal studies, three factors may be confounded: age, generation (cohort), and time of measurement. Recent efforts have been made to address these design issues; sequential research designs have been devised which consist of both cross-sectional and longitudinal methods and allow the influences of the three factors to be investigated (Goulet, Hay & Barclay, 1974; Nesselroade & Baltes, 1974; Schaie, 1965, 1970). Much more research in which these sequential strategies are applied needs to be undertaken, since most of our previous research studies have been insensitive (in terms of both design and theory) to the complex relationships between child development and cultural and social change. Indeed, Nesselroade and Baltes (1974) suggest that:

> The frequency of multidirectional and nonadditive relationships involving historical and ontogenetic components may be much greater than seems desirable from the vantage point of most developmental psychologists . . . Although . . . the available evidence does not allow one to specify the substantive determinants (maturational vs. experiential, etc.) of observed generational change in ability-personality variables, the overriding magnitude of the obtained cohort differences pleads urgently for a careful examination of similar social change components in other classes of behavior as well. Thus Schaie's (1965) original assertion that practially all descriptive, age-developmental literature needs reexamination in light of potential cohort differences is convincingly supported by initial empirical findings. (pp. 5-6, our underlining)

Among other important problems that need to be solved in longitudinal research, especially with regard to assessing the impact of educational intervention programs, are the interpretation of behavior at different age levels, and the development of tasks and measures that are appropriate at different developmental levels (Dusek, 1974).

Research on the Research Process

That the Panels have a strong interest in the research process itself goes without saying, given their primary objective of coordination. This concern extends almost necessarily to issues of research planning, but also goes further to include other critical problems relating to research methodology, interdisciplinary research, comparability in research, and the dissemination of research findings.

Methodology. The continuous refinement and development of methodological techniques (both in the narrow sense of tests and measures, and in the broader sense of designs and strategies) is clearly basic to the vitality of early childhood research and development. For instance, Sears (in press) points out that:

> During the last three decades, developments in measurement theory have played much the same role as process research [in furthering substantive research], and as of the 70's aptitude-treatment-interaction devices, cross-logged correlation methods, and regression analysis have permitted a sharp increase in the effectiveness of genetic research and evaluations of intervention techniques.(p.81)

While the fundamental value of methodological advances would hardly be considered a point of debate[1], and holds true for any scientific field, activity directly concerned with methodological issues has been minimal, relative to other areas and issues. There are probably varied reasons for this. Ironically, the need is so critical and pervasive that it may often be taken for granted, by both funding agencies and researchers. After all, methodological issues confront all researchers in the context of the particular research problems they are investigating. Indeed, the necessity to adapt general methodological techniques to the constraints imposed by unique research situations may constitute one of the best stimuli for innovation in methodology. For many, however, methodology is an aspect of the research project that needs to be addressed only indirectly. Research designs, instruments, and statistical analyses are often selected because they are available and fit the basic needs of the study (and if they do not fit, research objectives rather than the method often are revised.) This practice is understandable since many researchers lack either the interest or the expertise necessary to tackle methodological problems, and may assume at any rate that the relevant methodological work is being undertaken by others.

Perhaps more research with a primary rather than secondary focus on methodology is needed, if methodological advances are to be stepped up. This need is even more critical given the recent trends toward large-scale, multiple-variable assessments of intervention and service programs, and toward ecological and naturalistic studies. The flexibility afforded by laboratory or small-scale research situations is generally missing in these cases, (e.g.,in terms of selecting samples and setting up treatment and control groups), and basic assumptions that underlie experimental and statistical procedures are often violated. New research designs need to be developed that will allow researchers to cope with such problems.(See Vaught's,1974, discussion of "semiexperimental design.")

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[1]The Joint Commission (1970, p.446) for example, stated the need for far more work to be done in relation to the development of better definitions, research methods, and instruments for research in the mental health field, while Lipsey (1974) found that faculty frequently cited the need for improved research methods and skills as one of the most important issues confronting psychology.

Interdisciplinary research. Another aspect of the research process that deserves attention concerns cooperation and communication between those who carry out research. For instance, the critical need for interdisciplinary approaches to research is frequently cited (e.g., NICHD, 1968, p.60; Ramey, 1974, p.16), both as a means to advance theory development and as a requisite of large-scale multi-faceted studies of the child's ecology. There is a great deal of variation between specific areas of research, of course, in terms of both past performance in this regard (e.g., in the area of infant development, researchers from the biological and social sciences traditionally have worked closely together) and current needs (e.g., implicit in Nesselroade and Baltes',1974, plea for attention to the historical/cultural as well as the ontogenic components of personality change, is the need for closer collaboration between child development researchers and economists and political scientists.)

Even though the research field of child development was forged by multidisciplinary forces (Sears, in press), a history of interdisciplinary research projects would reveal that numerous frustrations and mishaps have occurred along the way. As the field has moved toward greater specialization, many researchers have found it increasingly difficult to work with the different orientations, methods and terminology of other disciplines (and even of other areas within their own disciplines.) Practical problems, however, often seem to overshadow the scientific difficulties involved in integrating diverse concepts and methods. Thus while researchers widely acknowledge that interdisciplinary research has definite merits, at the same time most have learned that, without real cooperation and collaboration between members of the research team, it can also be counterproductive. The lesson of past failures is that interdisciplinary collaboration is less likely to work when it has been undertaken in response to external pressures rather than in response to the particular needs posed by the research problem. Lustman (1970) has argued that:

> Each specialist must be free . . . to collaborate--not by assignment but by inner direction. If there is to be fruitful, multidisciplinary collaboration, it would best arise spontaneously from such an intellectual climate rather than from a calculated financial need. It cannot be programmed for it depends too much on the ripeness of the moment, the people, the methods, and the communication . . . I remain

> convinced that when the time is at hand for basic research collaboration between disciplines, the best of it will come as highly individual, inspired spurts rather than from premeditated calculation. (p.442)

Support and encouragement of interdisciplinary research must be carefully thought out then, and be sensitive not only to substantive research problems concerning theory and methodology, but also to difficulties inherent in the actual mechanisms of research collaboration. Clearly, no single blanket mode of support is appropriate. Interdisciplinary research can be facilitated both directly through support for specific projects and indirectly through general support for conferences and other activities in which scientific knowledge can be exchanged and synthesized. Furthermore, efforts to encourage collaboration across disciplines must be tailored closely to the particular disciplines, scientific problems and even the research settings involved. In this regard, it should be noted that some have argued that the traditional university department, with its emphasis on individual research, presents special obstacles to collaborative efforts, and may even be basically incompatible with mission-oriented, interdisciplinary research (Hamm, 1974, p.11).

Comparability in research. In interdisciplinary endeavors, the researcher is faced with problems of coordination and cooperation that are at least relatively easy to recognize, even if they are not always easy to solve. For instance, in collaborative research projects, investigators often begin by trying to adopt comparable or compatible terminology, procedures and measures. Similar problems that beset research in general (i.e. as carried out by individual investigators) are unfortunately not as easily recognized and are even less easily solved--but they are just as real.

In a sense, research studies are rarely entirely independent; they typically build on previous studies (regardless of whether they are designed to support, extend, or refute earlier findings) and in turn they provide a basis for subsequent research.

> One of the assets of science is its cumulative nature. New data supplant old; new ideas replace outworn ones. The growth of scientific theories may be continuous, through a process of modi-

> fication and accomodation, or it may at times be discontinuous, through the introduction of radically new concepts . . . In either case, there is in the history of science a sense of linear progression. (Dember. 1974, p.16.)

In order for research results to add up to anything, however, there must be a capacity to compare studies; there has to be some basis for relating the findings of one study to those of another. A clear prerequisite to the accumulation of results in any general conceptual area is that there be a substantial number of studies--a critical mass. This prerequisite can be met without inordinate difficulty, since even when investigators work in relative independence from one another, as is usually the case, they generally direct their research toward key questions that have surfaced in their areas of interest. Another prerequisite, which is much more troublesome when there is no formal system of coordination between researchers, is that methods and measures be comparable. In moving from general concepts and variables to specific operational definitions, measures and tasks, the researcher as often as not prefers to begin from scratch, rather than draw on the previous work of others. Not surprisingly, investigators gear their studies to their own particular research needs, not to those of an overall program of research. Nonetheless, the resultant variability in measures and procedures hampers the cross-study analyses that are essential in order to resolve discrepancies between research findings or even to discern true convergences in findings--in other words, to combine disparate findings into a more cohesive and meaningful picture. As discussed in the previous chapter, the Panels have given considerable attention to the general problem of achieving greater comparability in research.

The Panels have examined several levels at which efforts to increase comparability may be applied. First, and perhaps most basic, the clear and precise <u>definition</u> and <u>description</u> of key concepts, terms, procedures and measures is critical to cross-study comparisons. Similarly, information about relevant <u>demographic variables</u> must be available if we are to be able to generalize findings appropriat ly, and to sort out (especially when confronted with discrepancies between research findings) the contributing influ-

ences of background variables. While the trend in past years has definitely been in the direction of more complete demographic description, researchers still need to provide more accurate and meaningful information about their sample populations, especially with regard to social class, ethnicity and neighborhood characteristics. (See White & Duker, 1973, for a survey of existing practices in reporting demographic information.)

Outright collaborative research is perhaps one of the most direct means of increasing the potential for comparability. Some of the advantages and disadvantages of collaborative studies have already been touched on above, in the discussion of interdisciplinary research. While organized cooperation between researchers has undeniable merits, and is actively supported by some Federal agencies (e.g., USDA), it unfortunately offers no solutions for researchers who work independently.

In addressing the issue of comparability, Panel members have devoted much of their efforts to a consideration of marker variables and marker measures--that is, variables and measures that individual investigators can include in their studies in order to mark key background and performance characteristics of their sample populations. These markers would augment the particular core variables and measures chosen by each investigator, in order to provide a common base of measurement and thus facilitate subsequent analyses of research findings across studies. The contributions and cooperation of all components of the research community (e.g., researchers, professional associations, and Federal agencies) will be required in order to solve the complex scientific and practical problems that are involved in the development and implementation of marker variable strategies (See Bell & Hertz, 1974, for a more detailed discussion of some of these issues.)

Federal agencies can contribute to these efforts in at least two key respects. First, agencies can facilitate the exchange and coordination of information at the crucial planning phase of the research process. It is at this phase, not after studies have been completed, that questions of alignment and comparability can be addressed most effectively. The individual researcher seldom has access to studies in progress, much less those still on the planning boards. By developing overviews of future trends and directions in the content and methodology of research, agencies can alert

investigators to problems of alignment and comparability long before they could detect them on their own. Accordingly, the Interagency Panels have refined their information system to include as much information about methods, measures, and tests as is currently available in research proposals, have begun to examine the potential for comparability in several content areas (e.g., parenting skills), and have encouraged agencies to give greater consideration to methodology and comparability during the evaluation of research proposals.

A second primary way in which agencies can serve to accelerate the development of workable marker variable strategies is to support efforts by investigators working within the same general areas to exchange ideas (e.g., in large conference, or small workgroups). In some areas, only after this preliminary groundwork has been undertaken will the actual selection of marker measures even be possible. Along these lines, in 1973 a panel of experts met under the auspices of the Office of Child Development in order to define and integrate concepts of "social competency" in young children (Anderson & Messick, 1974). The Office of Child Development is also sponsoring ongoing meetings for researchers focusing on family-related issues, in order to facilitate increased alignment and comparability in this area.

Dissemination. Finally, the Panel has encouraged support for research on the dissemination of research findings and scientific knowledge, a component of the research process that despite its importance has too often been neglected in the past, especially by the research worker. Caldwell and Ricciuti (1973), for instance, have argued that:

> Leaders in the field have historically not considered themselves responsible for whether their research findings were utilized or how it was done. Our pattern has been to place our data into the public pool of knowledge and trust that the implications will be recognized and then put to work in practical situations concerned with guiding the development of the child and with shaping environments in which that development will occur. (p. vii)

Better methods need to be developed to disseminate research information to a variety of research consumers including the public practitioners, and legislators and policy makers at the national, state and local levels. Participants in the recent Conference on Family Research were especially

concerned that we not only devise ways to make information available to the children and families who most need it, but that we enable them to actually use it. Furthermore, in determining the need for research dissemination, the public itself has to be consulted more thoroughly. Hamm (1974) argues that:

> The willingness of the public to support and use the information gathered by extensive and expensive research on child mental health has yet to be firmly established. (p.10)

The Developmental Process

Traditionally, early childhood researchers have concentrated much of their attention on the basic processes of cognitive, socioemotional and physical development, and interest in these areas continues to increase, (as do the number of questions that need answers.) Information on the distribution of research support for specific aspects of these processes, such as motor development, perceptual development, and personality, is presented in the analysis sections of this report. It will be evident that some areas are the focus of considerably more effort than others, although this may not necessarily reflect an imbalance in support. It should be noted in passing that where an imbalance can be identified, in this category as in any other, the necessary remedy may go well beyond the simple influx of new funding, and involve a re-evaluation of current social policy and scientific theory and procedure.

Lists of specific priorities for research on developmental processes are readily available from many sources. Some of the areas that have been identified as in need of increased investigation are: attention, individual differences in learning patterns and cognitive styles, patterns of attachment and dependency between infants and parents, sexual identity, racial identity, fetal development (Stearns, Searcy & Rosenfeld, 1971; Grotberg, Searcy & Sowder, 1972); self-attitudes, creativity, failure-to-thrive syndrome, effects of discrimination and labelling, learning disorders, genetic/biological factors in causation and development of schizophrenia (Joint Commission, 1970, pp. 449-450); language development, early experi-

ence, and moral and political development (McCandless, in press).

There is a clearly acknowledged need for theory building in most of the research areas concerned with the developmental processes, in order to provide the direction and cohesiveness that has been so conspicuously absent in much of our past empirical work. A significant trend has been apparent for some time toward theoretical models in which the interdependence of developmental processes or skills is emphasized. For instance, Dember (1974) indicates that:

> Over the past three decades a profound change has taken place in the manner of conceptualizing those events considered motivational in nature (drives, incentives, rewards, etc.) . . . 'new look' models clearly invoke processes that would generally be classified as 'cognitive' . . . One effect of this development has been to allow increasingly complex and increasingly interesting behavioral phenomena to be incorporated into a scientific framework. (pp.163-165)

The need for more comprehensive theories of the child is crucial not only for the advancement of basic science, however, but also for the success of programmatic efforts to raise, educate and care for the nation's children. The few existing theoretical models of any substance, such as Piaget's theory of cognitive development, speak more to issues of the child's competence and ideal development than to the child's actual performance in a specific time and place, and for the most part fail to incorporate "concepts and notions about a 'changing individual in a changing world'" (Nesselroade & Baltes, 1974, p.65). Theory building must move in this direction as well if it is to serve us in our attempts to design, implement and evaluate social action programs. As indicated in the first part of this chapter, bridging the gap between the basic and applied sciences does not have to mean that their essential differences must be submerged. While each branch needs to pursue its own course, however, a meaningful interface between the two must be sustained, and one aspect of this need relates to scientific theory:

> Psychologists, and others, must become interested in the application of developmental theory to everyday child development situations. In other words, the difficult job of translating theory into practice must be tackled, either by the researcher-scholar or by people trained in a way that allows them to do this. (Dusek, 1974, p.23)

This is not to say that needs with regard to theory development or empirical investigation are the same in all areas of the field. For instance, Sears (in press, p.79) discusses two general kinds of research that need to be balanced. Process research relates to "theories of a general nature that apply to all behavior at all times" (e.g., universal principles of perception), whereas substantive work puts together "specific developmental stages with specific types of experience and attempts to find generalizations that apply where these particular circumstances occur in conjunction" (e.g., the influence of specific child rearing practices on aggression).

> The swing back and forth between process and substantive research is almost inevitable. The latter depends on the principles derived from the former. When substantive investigation finds itself without an adequate base in universal propositions, its findings become clouded. (p.80)

In other words, certain areas may be ripe for substantive research, and the application of theoretically and empirically derived principles to specific developmental problems, while in other areas new general principles may be needed to synthesize and bring order to descriptive and normative data. For instance, Sears puts social learning theory and Piaget's theory into the first category, and work on language acquisition into the latter category.

The Family

The Panel, in addressing research concerns relating to the effects of primary environmental influences on the child, has selected the family as a basic and critical unit. First, the family constitutes a major aspect of the young child's world and links the child with other major environmental systems. Second, each member agency of the Panel has a legislative mandate to deal with issues relating to the family, and thus the family constitutes an appropriate analytical framework within which to address research questions on an interagency basis.

During FY '74 the Panel's efforts to articulate research issues and priorities in this area culminated in the Conference on Family Research,

held in March and attended by representatives of the research community and the Federal government. Some of the highlights of the workgroup discussions held at this conference are presented here. (See Chapter I for a description of the format of the conference, and Hertz & Hertz, 1974, for a more detailed presentation of the conference proceedings.)

Conference participants gave a great deal of emphasis to the development of research methods and theoretical models that would more adequately reflect the complexity, diversity, and variability of behavior and values found both within and across families and cultural or ethnic categories. They identified a need to develop operational definitions of family functioning that would encompass the complex, multidirectional interactions in which family members participate. A broader domain of family functioning needs to be investigated in order to include stepparents, grandparents, aunts and uncles, and other individuals who participate in the day-to-day activities of the family, such as the housekeeper, babysitter, friend and neighbor.

Discussants cautioned social scientists to avoid ethnocentric approaches and inflexible a priori definitions of family forms and functions; they advised instead that the family be conceptualized as a continuum of forms, and that the significant parameters along which family forms vary be identified and incorporated into research paradigms.

High among the Conference participants' priorities was the development of "plus" models of family functioning--models that would focus on the strengths of families or cultural groups rather than on their failures or weaknesses. Rather than approach divergent or emergent family forms as problematic or deviant, researchers might more profitably investigate the processes by which individuals and families successfully adapt to a socially and culturally plural context. More attention should be given to exploring multiple, alternative patterns of functioning that may lead to equivalent outcomes in terms of compentence in children.

Deficit models also have been used extensively in research on major changes in family structure, due to, for instance, death or divorce. Attention might be shifted from specific deficits produced by disruptions of family life to the processes of coping and adaptation that follow changes

in structure. How are roles reallocated, reorganized or expanded to deal with new situations? How does the family solicit and obtain support and resources from relatives, friends and institutions in the community? Discussants stressed the need for research on single-parent families that focuses on the particular patterns of functioning that lead to optimal development, and pointed out that single parents and their children do not necessarily have negative self-images or see themselves as in need of special remedial services.

Some discussants argued that in applying a narrow operational definition to family functioning, the researcher ignores the many distinctly different processes that are involved in family life. They urged that the focus of research be expanded to include a wider cross section of: (1) basic family functions, such as those related to child care, breadwinning, housekeeping, and marriage; (2) modes of interaction, including violence and aggression; and (3) family roles, especially those that are undergoing radical changes in many families, such as the female's role, and the adolescent's role.

Participants frequently complained that research efforts have failed to tap into many of the significant and integral aspects of family and child development. Although specific research strategies or designs were not discussed, a variety of related recommendations and ideas were advanced. Support was expressed generally for "systems approaches" to family research --holistic research designs that focus on <u>total</u> family functioning and on the interrelations and interdependence of the primary systems that bear on family functioning. Rather than restrict their observations and experiments to dyadic interactions, researchers might also deal with larger social systems. Greater consideration should be given to the ecological systems within which the family functions--to the interfaces between the family and the physical and social environments, the surrounding neighborhood and community, and the resources and institutions that are available to the family. Statistical, quantitative methods could be augmented by more qualitative assessments of family life, (e.g., participant observation) especially with regard to emerging family forms and cultural and ethnic groups. Many discussants stressed the value of developmental studies of family functioning, pointing out that the needs and dynamics of the family

change significantly as the members grow older. The use of longitudinal designs was discussed extensively, with most attention given to the problem of insuring commitment and continuity on the parts of both the funding agencies and the researchers.

A general need for research and work on methodology was identified. According to some participants, the many measurement, observation, and interview techniques used in family research should be evaluated systematically in large-scale methodological studies. How do the various methods compare, and how do they hold up across different social and cultural settings? Currently available techniques of data collection and analysis are often inappropriate or inadequate for complex, multiple-variable ecological or longitudinal research projects.

In each of the workgroups, consideration was given to some aspect of the process of disseminating and implementing research findings. Participants concluded that for a variety of reasons much of the information generated by scientific studies has failed to reach the public and professional communities, and even, in some cases, appropriate government agencies. Existing channels of communication and dissemination need to be improved and new methods need to be developed. Among the priorities identified by the discussants were the following: (1) devise methods not only to disseminate information, but also to enable families to use that information; (2) increase the emphasis placed on the evaluation of implementation and dissemination programs; (3) assess the impact of implementation activities on the agents of the programs as well as on the recipients; (4) determine which dissemination or implementation techniques actually result in behavior change; and (5) encourage and support more extensive replication efforts as an antecedent to massive dissemination and implementation programs. Discussants in the Workgroup on Cultural Pluralism raised a series of questions with regard to the government's role in the dissemination of cultural pluralism approaches: (1) What is the degree and nature of the government's commitment to a cultural pluralism approach? (2) How can the government support the idea of a plurality of cultures within American society? (3) How can Federal agencies help families function in a plural social system? and (4) How can the Federal government, through policy and research, make cultural pluralism an issue

of concern for the dominant groups? The discussants recommended a major conference on ethnicity as a first step in promoting discussion of cultural pluralism.

Participants in all of the workgroups commented on the need for high ethical standards in research. Many discussants stressed that the confidence and privacy of the family should be respected and protected by all researchers and practitioners, and especially by those who observe and participate in activities within the home. The use of deficit models in research was also discussed in terms of its ethical implications; researchers have an obligation to maintain objectivity when they investigate families who have different cultural and ethnic backgrounds. Community input was frequently cited as one means of insuring fairer and more objective representation of the values and behaviors of the people participating in research projects.

The Community and Society

As can be seen in the analysis sections of this report, the Federal government invests a large proportion of its early childhood research funds into studies of the broader elements of the environment, and into the examination, design or evaluation of the social institutions and broad intervention and service programs charged with promoting the education, health and well-being of children. As previously indicated, there has been a recent upsurge in interest in the child's ecology--in the reciprocal influences between the child and the significant individuals, institutions and activities within the child's neighborhood and community. There is need to clarify the ways in which these social and physical constraints differ across urban, suburban and rural settings and across social, cultural and economic lines. In a similar vein, participants in the recent Conference on Family Research stressed the need for more research on the socialization of children within the context of particular cultural and ethnic value systems, and on the successful adaptation of children to the complexities of life in a culturally plural society.

There are a variety of crucial research issues related to the school.

For instance, can instructional methods be made more effective for children in general and for particular groups, such as the handicapped and mentally retarded? To what extent and in what ways can individualized instruction programs be coordinated with the general educational process? There is need for much more research on individual differences in cognitive and social abilities, and on ways to build into the educational system mechanisms for dealing with such differences. How can parents and other adults be involved to a greater extent in the educational process, whether in the home, in the community or in the school? The Panel recommends that more emphasis be placed on interrelations among key aspects of the child's school experiences and significant factors in the child's home, neighborhood and culture. Innovations in instruction, in the use of technology and human resources, and in the development of research, measurement and evaluation strategies continue to be of high interest, as are more basic investigations into the processes and skills involved in social and intellectual development

The results of recent research on the variety of Federally-sponsored intervention and social-action programs (concerned, for example, with day dare, compensatory education, health, nutrition, income maintenance, and educational television) have shown overwhelmingly the need to move away from programs that treat a single aspect of the child's development within an isolated ecological setting, toward multiple-pronged attempts to deal with the whole pattern of ecological factors that bears on the child's development. For instance, the effects of well-designed and implemented preschool intervention programs have been both positive and real, but gains in the child's intellectual and social skills (as assessed thus far by a relatively small number of measures) appear to be limited in scope and duration. Declines in performance subsequent to the termination of programs are typically found and a variety of approaches to augmenting and sustaining initial gains have been undertaken (e.g., Follow Through). Intensive research must continue, of course, on ways to improve compensatory education as it is administered in the preschool center proper. For instance, Dusek (1974) underlines the need to investigate interactions between the attributes, characteristics, and competencies of children (and even of the teachers) and particular program characteristics, in order to determine what works best

for whom and as taught by whom. Perhaps most significant, however, is the trend in compensatory education toward programs that foster the child's development not merely in the school setting, but through broader ecological intervention--programs that bring into the picture the circumstances and conditions of the child's life outside the school building, and especially in the family and neighborhood. Thus, issues of nutrition, housing, family life, parents' employment, etc., must be considered as well as those of instructional technique. In analyzing these problems, Bronfenbrenner (1974) concludes:

> Of especial importance for sustaining the child's learning in school is the involvement of parents in supporting at home the activities engaged in by the child at school and their participation in activities at school directly affecting their child . . . Taken as a whole, the foregoing principles imply a major reorientation in the design of intervention programs and in the training of personnel to work in this area. In the past, such programs were primarily child-centered, age-segregated, time-bound, self-centered, and focused on the trained professional as the powerful and direct agent of intervention with the child. The results of this analysis point to approaches that are family-centered rather than child-centered, that cut across contexts rather than being confined to a single setting, that have continuity through time, and that utilize as the primary agents of socialization the child's own parents, other family members, adults and other children from the neighborhood in which he lives, school personnel, and other persons who are part of the child's enduring environment. (p.57)

Bronfenbrenner argues further that in many cases ecological intervention may require institutional change. The need for research on the impact of planned changes in social structures and institutions, which has been emphasized by many research and policy planners (e.g., Joint Commission, 1970, pp.444-445) is not all that is involved, however. As Bronfenbrenner points out, in cases where life circumstances are not even viable, and basic needs for survival and growth are unfulfilled, the institutional changes that are required may be far-reaching and difficult to achieve. Thus, to questions about the impact of changes in social structures and institutions must be added questions of how to accomplish those changes, and this in turn requires further expansion of our research perspectives:

> What we need to know requires a need for studies that go beyond the behavior, attitudes, and opinions of individuals. It will require, among other things, study of change itself. History and anthropology

> are the social disciplines that have been most concerned with the processes by which change occurs in a culture. We have not drawn on their potential contribution as heavily as we could and must . . . We also need to study the institutions and organizations in which or through which change must be effected . . . we need to learn more about the life ways of institutions and organizations. The subject, of course, is far from new. However, to a large extent, institutions and organizations have been studied more with a view to learning how they work and to improve their status quo operations than to effecting change in them. (Herzog, 1971, pp. 9-10)

Finally, joint efforts by many agencies will be essential in order to study the combined effects of environmental influences and social programs. The Panel is concerned with facilitating the interagency communication and cooperation that will be required in the planning, implementation and evaluation of these complex endeavors.

CHAPTER III

DESCRIPTION AND ANALYSIS OF FY '74 EARLY CHILDHOOD RESEARCH, ACROSS AGENCIES

This chapter contains a description and analysis of the combined early childhood research supported in FY '74 by the agencies on the Interagency Panel on Early Childhood Research and Development. The data presented are derived from the Interagency Panels' information system (see chapter I, and Appendix B), which for FY '74 contains information about 3116 projects representing $303.3 million in funding. Of these, 2307 projects ($239.1 million) relate to early childhood (prenatal to ten years of age). According to the Panels' classification scheme, a project is coded as early childhood if children under ten are included in the targeted population; persons ten years and older also may be included, however. For this reason, a project may be coded as pertaining to both early childhood and adolescence.[1] Actually, of the 2307 projects classified as early childhood, only 1153 focus exclusively on children under ten years of age.

The analysis of FY '74 early childhood research covers activities administered through 17 Federal agencies or departments (including six subdivisions of the Office of Education). The number and percentage of projects and the amount and percentage of funding for each agency are presented in Table 1.

While efforts are made to include all research on early childhood, the comprehensiveness of the data collection necessarily is constrained by the availability of information from each agency. For instance, during the collection of FY '74 project data, information about 310 projects funded for over $59 million by the Division of Bilingual Education was not yet available and thus they are not reflected in the data analyses that follow.

The tables presented in this chapter contain information about both the number of projects and the amount of funding. It should be noted that

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[1] An exception to this rule is made in the case of NICHD, whose projects are classified as either early childhood or adolescence, but never both.

Table 1

Distribution of FY '74 Federal Early Childhood Research, by Agency, Projects, and Funding

Agency	Projects		Funding	
	No.	%[a]	Amt.[b]	%[c]
Office of Child Development (OCD)	92	4.0	8.1	3.4
Social and Rehabilitation Service (SRS)	52	2.3	1.4	0.6
National Institute of Child Health and Human Development (NICHD)	286	12.4	20.6	8.6
National Institute of Neurological Diseases and Stroke (NINDS)	85	3.7	7.9	3.3
National Institute of Mental Health (NIMH)[d]	423	18.3	18.0	7.5
National Institute of Drug Abuse (NIDA)	19	0.8	1.8	0.8
National Institute of Alcohol Abuse and Alcoholism (NIAAA)	4	0.2	0.2	0.1
Bureau of Community Health Services (BCHS)	58	2.5	3.6	1.5
National Institute of Education (NIE)	273	11.8	37.9	15.9
OE, Bureau of Education for the Handicapped (BEH)	300	13.0	34.5	14.4
OE, Office of Indian Education (OIE)	114	4.9	11.3	4.7
OE, Right to Read Effort	96	4.2	7.4	3.1
OE, Bureau of School Systems (BSS)[e]	390	16.9	76.5	32.0
OE, Bureau of Occupational and Adult Education (BOAE)	66	2.9	5.3	2.2
OE, Office of Planning, Budgeting, and Evaluation (OPBE)	17	0.7	4.3	1.8
U.S. Department of Agriculture (USDA)[f]	30	1.3	0.25	0.1
U.S. Department of Labor (DOL)	2	0.1	0.14	0.06

[a]Percentage of total number of early childhood projects (2307).

[b]In millions of dollars.

[c]Percentage of total amount of early childhood funding ($239,093,763).

[d]NIMH intramural research (21 projects) is reflected in the projects columns, but not in the funding columns.

[e]Does not include 310 projects funded for $59.4 million by the Division of Bilingual Education within BSS.

[f]Information on funding was available for only 21 of the 30 projects.

projects can vary widely in terms of funding, both within and across agencies. For instance, while NICHD and NIE each supports about 12% of the early childhood projects analyzed in this document, NIE's funding is about 16% of the total early childhood funding, in contrast to about 9% for NICHD.

The 2307 early childhood projects are supported primarily through grants (84.1%), while 14.5% represent contracts and 1.4% intramural activities. More than half of the projects were continued from previous fiscal years (61.8%), while the remaining 38.2% were initiated during FY '74. Similarly, the planned duration of the research activity is two years or longer for 61.6% of the projects. Of these long-term projects, 268 (11.6% of the total early childhood research) are longitudinal studies. Finally, 84.6% of the projects are individual studies, while 12.1% are separately funded components of larger programs, and 3.3% are broad programs.

In the tables that appear in this chapter and the following chapter, FY '74 early childhood research is broken down into selected categories which for the most part represent specific aspects of the general research issues reviewed in Chapter II. The data reported for the various categories generally are overlapping (with some exceptions to be explained below). That is, if a project pertains to two or more categories (e.g., cognitive development and the family) it will be reflected in the figures for each of these categories. Thus in most tables the percentages sum to more than 100%. In certain cases, however, categories are mutually exclusive. For each project in the information system, a primary focus and a secondary focus have been identified. Even if a project involves an investigation of several factors (e.g., cognitive development, socioemotional development, and day care), only one category--the one considered by the coder to be most central to the purpose of the study--is designated as the primary focus. A single secondary focus also is selected for each project. Categories pertaining to kind of research similarly are mutually exclusive. Each project is classified according to the single kind of research that best describes it: basic, applied, evaluation, planning of research, or support and utilization of research.

Major Areas of Research

In Table 2, FY '74 activity is broken down into broad areas of early childhood research. The table shows the number and percentage of projects in which each area is the primary focus, the secondary focus, and included within the general focus. Note that an examination of all of the columns gives one a range of figures, rather than a single figure, which indicates the amount of activity related to each research area. For instance, there are 150 to 294 projects which involve research on early childhood education. (In other words, while early childhood education is the primary focus of 150 projects, it is touched on in some way by almost twice as many projects.)

Three of the general categories (growth and development in general, health or welfare services, and educational services) are further broken down into subcategories. These general categories subsume the subcategories indented below them, with regard to the figures shown for primary focus and secondary focus. In each of these three cases, the figures shown for the superordinate category include the sum of the figures shown for the subcategories plus a number of projects which simply do not fit any of the subcategories and which were classified at the general level only. With regard to the primary focus, it can be seen that there are 42 such projects in growth and development, 16 in health or welfare, and 576 in educational services. The projects which have general growth and development and general health and welfare as their primary focuses are for the most part ones which involve investigations of such a broad spectrum of development or services that it was not feasible to categorize them as applying to particular developmental processes or service programs. In the case of educational services, however, the situation is somewhat different. Two specific kinds of projects account for the bulk of projects whose primary focus is categorized only as general educational services: (1) parent education (53 projects), and (2) special education (311 projects). The remainder of the projects which are in the general educational services category but not in any of the subcategories are primarily those in which no particular age or grade groups were targeted.

The category of educational services accounts for the largest block of research; it is the primary focus of slightly more than 50% of all early childhood research, and is included in the general focus of more than 60% of

Table 2

Distribution of FY '74 Early Childhood Projects, by General Research Category, and Focus

Category	As Primary Focus of Study		As Secondary Focus of Study		Included in General Focus of Study	
	No.	%[a]	No.	%[a]	No.	%[a]
Growth and Development in General	720	31.2	299	13.0	1160	50.3
Physical Growth and Development	333	14.4	57	2.5	515	22.3
Cognitive Growth and Development	231	10.0	98	4.3	527	22.8
Socioemotional Growth and Development	114	4.9	91	3.9	512	22.2
The Family	76	3.3	88	3.8	310	13.4
The Neighborhood/Community	6	0.3	23	1.0	132	5.7
The Broader Social Environment	13	0.6	65	2.8	198	8.5
Health or Welfare Services	232	10.1	253	11.0	711	30.8
Day Care	29	1.3	14	0.6	69	3.0
Health Care	129	5.6	200	8.7	432	18.7
Protective Services/ Advocacy	58	2.5	18	0.8	164	7.1
Educational Services	1197	51.9	120	5.2	1416	61.4
Early Childhood Education	150	6.5	27	1.2	294	12.7
Elementary Education	429	18.6	24	1.0	761	33.0
Secondary Education	12	0.5	14	0.6	299	13.0
Post-Secondary Education	9	0.4	3	0.1	52	2.3
Vocational Education	21	0.9	4	0.2	54	2.3
Law Enforcement	13	0.6	4	0.2	17	0.7
The Research Process	47	2.0	82	3.6	252	10.9

Note. As primary or secondary focus, categories are mutually exclusive, with the exception that a category subsumes any other categories indented immediately below it. Categories are not mutually exclusive when they refer to areas included within the general focus.

[a]Percentage of total number of early childhood projects (2307).

the projects. Note that of those projects that relate to a particular grade level, the greatest concentration is in elementary education--almost three times as many projects focus (either primarily or in general) on elementary education as on early childhood education. While the relatively high number of projects (299) which include secondary education within the general focus may appear anomalous at first glance, given that this document concerns early childhood research, it simply reflects the wide age span of many projects which focus on children both below and above 10 years of age. Perhaps even more surprising are the nine projects with a primary focus on post-secondary education, and the 21 projects with a primary focus on vocational education. Included among these projects are parenting instruction programs and broad programs that include early childhood components (e.g., career education curriculum for elementary school).

An examination of the next largest category of research--growth and development--shows that physical development, cognitive development and socio-emotional development are included in the general focus of about the same percentage of studies (22.3%, 22.8%, and 22.2% respectively). As a primary focus, however, physical development is included in about three times as many studies, and cognitive development about twice as many studies, as is socioemotional development.

Within the area of health and welfare services, health care (mental as well as physical) accounts for the largest portion of research, included in the general focus of 432 projects and as the primary focus of 129 projects. Protective services (includes emergency, protective, adoptive, and foster care) and advocacy are studied as the primary focus in 58 projects and as part of the general focus in 164 projects.

Family-related issues continue to receive a relatively significant amount of attention from researchers--the family is a factor in over 13% of the research projects. It should be noted, however, that the family, the neighborhood/community, and the broader social environment are more often the secondary focuses of projects than they are the primary focuses, indicating that researchers still are not examining these contexts of the child's development in their own right to the same extent as they do other factors, such as developmental processes, and particular services or intervention programs. Health care is similarly more frequently a secondary focus of research

(200 projects) than a primary focus (129 projects) although perhaps for different reasons than those just mentioned. A primary factor behind this ratio is the comprehensiveness of recent intervention or service programs. For instance, many day care and educational programs, especially at the preschool and lower grade levels, include health care components.

As can be seen at the bottom of Table 2, the research process itself is an area of investigation in a reasonably high number of projects (252). Only a fraction of these projects, however, are designed primarily to address some issue of the research process (47 projects).

The relatively small number of projects dealing with law enforcement services (e.g., delinquency treatment or prevention) is not surprising since such programs generally do not pertain to children below the age of ten.

Major Kinds of Research

Figures 2 and 3 illustrate the distribution of the major kinds of research. As indicated at the beginning of the chapter, these categories are mutually exclusive. For the purposes of classification in the Panel information system, basic research is defined as research directed primarily toward the increase of knowledge, the improvement of understanding, and the discovery of basic relationships; it is not necessarily applicable to solutions of immediate problems. In applied research studies, results are intended to be more directly applicable to immediate problems than are basic research findings. Applied research may be derived from basic research or theory or it may be empirical; it is aimed at showing how existing knowledge can be used in new and useful ways. Applied research is considered as a category unto itself, as well as covering the following kinds of research: (1) development, which is concerned with the construction of tests, systems, materials, methods, media, equipment, facilities, and prototypes to provide for instrumentation of either basic or applied research; (2) demonstration and/or utilization, which includes activities designed specifically to show the method of operation or applicability of a research program model; and (3) pilot studies, which are small scale initial trials to determine feasibility and to identify problems in preparation for larger efforts. Evaluation research is undertaken to assess overall project impact; to compare various models, strategies or materials; and to determine the cost-effective-

Figure 2

PER CENT OF TOTAL NUMBER OF EARLY CHILDHOOD RESEARCH PROJECTS BY KINDS OF RESEARCH, FY '74*

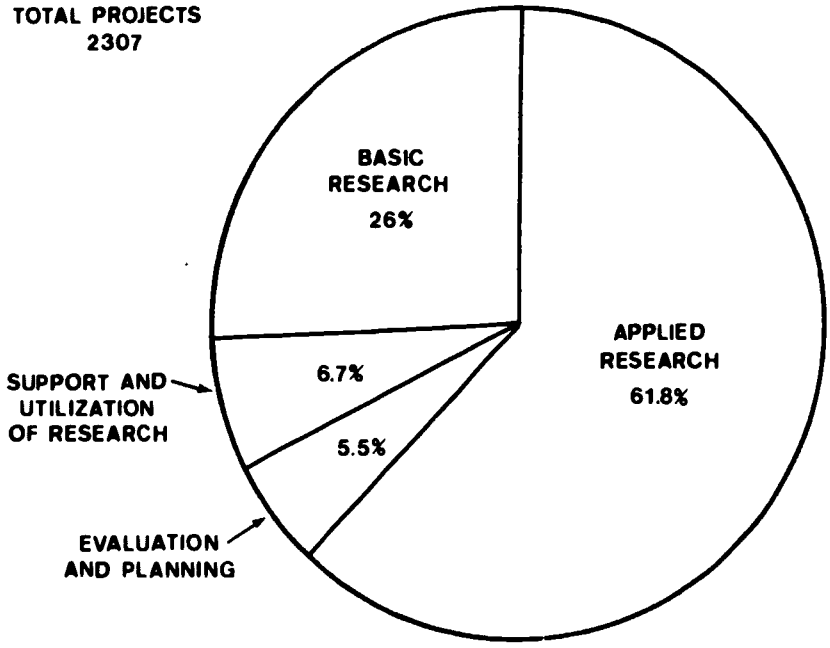
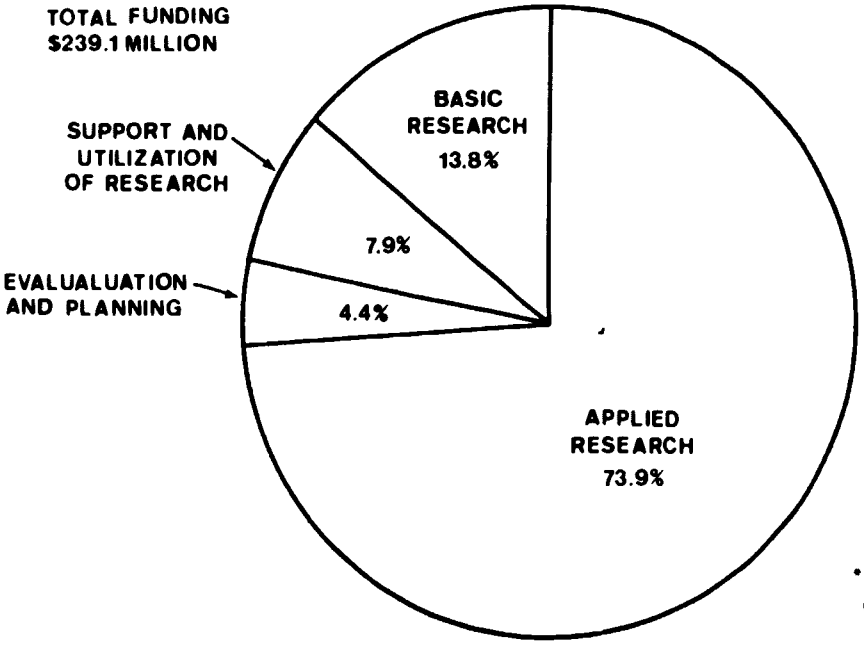


Figure 3

PER CENT OF TOTAL EARLY CHILDHOOD RESEARCH FUNDING BY KINDS OF RESEARCH, FY '74*



*Percentages represent mutually exclusive categories.

ness of planned programs. Planning of research is defined as activities related to the planning of research goals, methods, and projects. (Note that in Figures 2 and 3 evaluation and planning have been combined.) Finally, research support and utilization covers general research support activities, related to the implementation and utilization of research: it includes state-of-the-art papers, research syntheses, analyses of existing data, conferences and publications to disseminate information,and installation funding for proven demonstration projects.

Applied research is clearly predominant in terms of percentage of projects, accounting for almost 62% of the total research activity in contrast to 26% for basic research, and a little more than 12% for combined activities related to the planning, evaluation, support and utilization of research. The high cost of applied research relative to basic research is apparent in Figure 3, which shows applied research consuming almost 74% of the agencies' FY '74 funds, while basic research is allocated only about 14%.

Table 3 offers a more detailed picture of the distribution of the five major kinds of research, breaking them down into eight general content areas of research, selected from the categories shown in Table 2. (Note that neighborhood/community and the broader social environment have been combined, and that the data pertain only to the primary focus of projects.) Looking down the basic research column, we see that most of the activity concerns the developmental processes, with relatively little concerned with factors that make up the child's environment, or with the various services related to health, welfare, and education. In terms of basic research, cognitive, socioemotional, and physical development are the primary focus of about 20% of the total early childhood research projects, while family, community/society, health, welfare, and education account for less than 5% of all projects. On the other hand, by scanning the applied column it can be ascertained that not all research on the developmental processes is basic. A little more than 8% of all projects are both applied and focused primarily on one of the developmental processes.

Turning now to the family, it is interesting that applied research on the family accounts for only half as many projects as basic research on the family. This reflects in part a tendency of many researchers to study

Table 3

Distribution of FY '74 Early Childhood Projects, by Primary Focus and Kind of Research

Primary Focus	Kind of Research				
	Basic	Applied	Evaluation	Planning	Support
Physical Development	242 (10.5%)	84 (3.6%)	0 (0%)	2 (0.1%)	5 (0.2%)
Cognitive Development	158 (6.9%)	65 (2.8%)	1 (0.04%)	2 (0.1%)	5 (0.2%)
Socioemotional Development	63 (2.7%)	46 (2.0%)	1 (0.04%)	1 (0.04%)	3 (0.1%)
Family	53 (2.3%)	21 (0.9%)	1 (0.04%)	0 (0%)	1 (0.04%)
Community and Broader Social Environment	9 (0.4%)	10 (0.4%)	0 (0%)	0 (0%)	0 (0%)
Health/Welfare Services	7 (0.2%)	172 (7.5%)	35 (1.5%)	2 (0.1%)	16 (0.7%)
Education	40 (1.7%)	981 (42.5%)	55 (2.4%)	13 (0.6%)	108 (4.7%)
Research Process	7 (0.3%)	24 (1.0%)	3 (0.1%)	6 (0.3%)	7 (0.3%)

Note. Categories are mutually exclusive. Percentage of total number of early childhood projects is shown in parentheses.

abstracted components of family life (e.g., mother-infant interaction) rather than actual situations or problems of family functioning and family-society transactions.

Not surprisingly, a significant amount of applied research focuses on health and welfare services (7.5%). The bulk of applied projects, however, are concerned with education (a little more than 42% of all early childhood projects). This contrasts with the very small amount of basic research with a primary focus on education (only 1.7%).

Finally, it can be seen that most of the activity related to evaluation, planning and support occurs in conjunction with educational research, with a significant amount of evaluation activity falling into the category of health and welfare services.

Developmental Processes

Data[2] about research on selected subcategories of the developmental processes are displayed in Tables 4, 5, and 6. In table 4 it is apparent that a large proportion of research on physical development involves the study of factors related to disease and illness (7.6% of the total early childhood projects). Pregnancy and childbirth (primarily prenatal maternal and fetal health and nutrition) and body growth also each receive attention in slightly more than 6% of the total number of projects. Motor development, sensory development, and physical handicaps each is studied in somewhat more than 3% of the projects.

In cognitive development, one of the most active areas is thought processes (included in this category are issues such as concept formation, problem solving, creativity, memory, learning, and computer simulation of thought), which is focused on in almost 10% of the research. Studies of language development continue to be popular, accounting for 7.3% of the overall research. Cognitive achievement and perception/attention are investigated in 7.3% and 6.6% of the projects.

Recall that these categories are not mutually exclusive. Indeed, there must be considerable overlap in the study of thought, language,

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[2] In Tables 4-65 and in Figures 4-18, all data refer to the general (rather than the primary or secondary) focus of projects.

Table 4

FY '74 Early Childhood Research on Physical Development, by Category, Projects and Funding

Category	Projects		Funding	
	No.	%[a]	Amt.[b]	%[c]
Total Research on Physical Development	515	22.3	38.3	16.0
Physical Disease or Illness	175	7.6	11.2	4.7
Pregnancy and Childbirth	152	6.6	13.1	5.5
Body Growth	141	6.1	11.2	4.7
Motor Development	84	3.6	7.4	3.1
Sensory Development	81	3.5	6.7	2.8
Physical Handicaps	72	3.1	9.0	3.8
Accident/Poisoning	22	1.0	2.3	1.0

Note. Categories are not mutually exclusive; they have been ranked according to number of projects.

[a]Percentage of total number of early childhood projects (2307).

[b]In millions of dollars.

[c]Percentage of total amount of early childhood funding ($239,093,763).

Table 5

FY '74 Early Childhood Research
on Cognitive Development
by Category, Projects and Funding

Category	Projects		Funding	
	No.	%[a]	Amt.[b]	%[c]
Total Research on Cognitive Development	527	22.8	47.6	19.9
Thought Processes	224	9.7	17.9	7.5
Language	178	7.7	14.3	6.0
Achievement	169	7.3	17.4	7.3
Perception/Attention	153	6.6	10.6	4.4
Intellectual Handicaps	56	2.4	4.7	2.0
I.Q.	53	2.3	3.4	1.4
Reading	46	2.0	5.3	2.2

Note. Categories are not mutually exclusive; they have been ranked according to number of projects.

[a]Percentage of total number of early childhood projects (2307).

[b]In millions of dollars.

[c]Percentage of total amount of early childhood funding ($239,093,763).

Table 6

FY '74 Early Childhood Research
on Socioemotional Development,
by Category, Projects and Funding

Category	Projects		Funding	
	No.	%[a]	Amt.[b]	%[c]
Total Research on Socio-emotional Development	512	22.2	52.0	21.8
Attitudes/Behavior	279	12.1	24.2	10.1
Social Development	264	11.4	30.2	12.6
Emotional Development	116	5.0	7.9	3.3
Personality	74	3.2	5.5	2.3
Emotional Illness	50	2.2	2.7	1.1

Note. Categories are not mutually exclusive; they have been ranked according to number of projects.

[a]Percentage of total number of early childhood projects (2307).

[b]In millions of dollars.

[c]Percentage of total amount of early childhood funding ($239,093,763).

achievement, perception and attention, since their percentages sum to much more than 22.8%, which is the figure for all research on cognitive development.

Only 46 projects (or 2%) are directed toward reading. It should be noted, however, that in these studies the cognitive processes involved in reading are under examination. Reading as a curriculum is studied in 210 projects, most of which are supported by OE.

Table 6 reveals that most research on socioemotional development concentrates on either attitudes (e.g., toward school or peers) and behavior patterns, or social development (which includes socialization, the development of interpersonal relationships, belief systems, and motivation).

While it is difficult to ascertain directly the degree to which studies examine interrelations between developmen al processes, one possible method is to tally the projects which have as a primary focus one of the three developmental processes, and as a secondary focus another of the three developmental processes. A search of the information system revealed 86 such projects (about 4% of all early childhood research, or 13% of the research on developmental processes). Of the 333 projects with a primary focus on physical development, 25 had a secondary focus on cognitive development, and 13 a secondary focus on social development. Of the 231 projects with a primary focus on cognitive development, 20 had a secondary focus on social, and 11 on physical. Of the 114 with a primary focus on social development, 10 had a secondary focus on cognitive, and 7 on physical.

The Family

Selected categories of research on the family are presented in Table 7. Intrafamily relationships constitute the most often studied subject matter, examined in twice as many projects as any of the other categories. Again there is a good deal of overlap among research issues, as is apparent when the percentage for total research on the family (13.4%) is compared with the sum of the subcategory percentages (about 26%). The family's interface with society (e.g., the impact of social institutions on the family and vice versa) and the ecology of the home (e.g., the child's interaction with the setting and materials found in the home surroundings)--both of which

Table 7

FY '74 Early Childhood Research
on the Family,
by Category, Projects and Funding

Category	Projects		Funding	
	No.	%[a]	Amt.[b]	%[c]
Total Research on Family	310	13.4	20.3	8.5
Intrafamily Relationships	203	8.8	14.5	6.1
Influence of Family on Child	102	4.4	8.2	3.4
Family Structure	93	4.0	5.3	2.2
Family Health	72	3.1	4.5	1.9
Child Rearing	64	2.8	3.7	1.6
Family/Society Interface	44	1.9	4.3	1.8
Ecology of Home	26	1.1	3.2	1.3

Note. Categories are not mutually exclusive; they have been ranked according to number of projects.

[a]Percentage of total number of early childhood projects (2307).

[b]In millions of dollars.

[c]Percentage of total amount of early childhood funding ($239,093,763).

are identified in Chapter II as in need of increased research--are the two least studied areas.

The structure of the family is a factor in 93 projects, or 4% of the total early childhood research. Despite the need for investigations of alternate or emergent family forms, family structures other than the nuclear family (e.g., single parent family, extended family, commune, multiracial family) were mentioned specifically in the proposals of only 12 of these 93 projects.

The Broader Environment and Social Programs

In Table 8, the environmental context beyond the family is broken down, along with key social services and programs. Education is the focus of by far the most projects, accounting for slightly more than 61% of all projects, which represent over 80% of the total early childhood research funding. As can be seen, a large portion of this research pertains to special education (343 projects), while 259 projects relate to preschool education and 100 to programs for infant education and development.

Health services are the concern of almost 19% of all projects, welfare services about 9%, nutrition services 7%, and day care, 3%. Included in the figures for welfare services are studies on advocacy services (6%), child abuse (1.3%), adoptive and foster care services (less than 1%), and emergency services (.5%).

Turning for a moment from the large-scale social programs to specific aspects of the child's environment, we see that cultural, socioeconomic, and religious factors are investigated in 130 projects, the physical environment of the neighborhood in 74 projects, professional groups and community institutions in 63 projects, social crises and change (e.g., the effects of unemployment, crime, job or geographic mobility, institutional change) in 5[illegible] projects, the mass media in 19 projects, legal rights of children in 9 projects, and legal services (e.g., police and courts) in 8 projects.

Much of the activity delineated in Table 8 relates to four key aspects of intervention and service programs: deli··ery, training, parent involvement, and cost/benefits.

The concentration of activity in the category of delivery systems is

Table 8

FY '74 Early Childhood Research on Broader Environmental Influences, Institutions, and Social Programs by Category, Projects and Funding

Category	Projects		Funding	
	No.	%[a]	Amt.[b]	%[c]
Education	1416	61.4	191.9	30.3
Delivery Systems	1143	49.5	158.9	66.5
Training of Individuals to Work with Children	737	32.0	113.0	47.3
Parent Involvement and Education	696	30.2	101.7	42.5
Health Services	432	18.7	63.9	26.7
Special Education	343	14.9	38.3	15.9
Preschool Education	259	11.2	26.9	11.2
Welfare Services	210	9.1	20.5	8.6
Nutrition Services	162	7.0	44.6	18.7
Advocacy Services	138	6.0	15.0	6.3
Cultural/Socioeconomic/ Religious Influences	130	5.6	8.9	3.7
Costs and Cost/Benefits of Intervention Programs	125	5.4	11.8	4.9
Infant Education	100	4.3	10.7	4.5
Physical Environment of the Neighborhood	74	3.2	4.5	1.9
Day Care	69	3.0	4.8	2.0
Professional Groups and Institutions in the Community	63	2.7	4.2	1.8
Social Crises and Change	51	2.2	3.3	1.4
Recreation	30	1.3	2.3	1.0
Child Abuse	29	1.3	3.3	1.4
Mass Media/TV	19	0.8	1.6	0.7
Adoptive/Foster Care	16	0.7	1.0	0.4
Emergency Services	12	0.5	0.6	0.3
Legal Rights	9	0.4	1.1	0.5
Legal Services	8	0.4	0.8	0.3

Note. Categories are not mutually exclusive; they have been ranked according to number of projects.

[a]Percentage of total number of early childhood projects (2307).

[b]In millions of dollars.

[c]Percentage of total amount of early childhood funding ($239,093,763).

high (almost 50%), since in most of the projects on service and intervention programs the focus is not on the programs as background factors, but on developing and evaluating methods of providing the services. Table 9 presents a closer examination of the various kinds of delivery systems.

The implementation of many projects (737) entails the training of individuals (other than parents) to work with children. Information about the training of particular types of individuals is given in Table 10. By far, most of this activity concerns educational personnel (625 projects). In the projects reviewed here, the focus on training is secondary to that on child development. For example, in many demonstrations of education programs, inservice teacher training is only one element of the design to improve service delivery. Projects whose primary purpose is to develop personnel training for early childhood services are not included in the Panel information system.

Parent involvement and education account for about 30% of the projects on early childhood and slightly more than 42% of the funding. About 80 of these 696 projects involve education for parenthood (instruction in parenting skills, child development and care, and family life). In almost 400 of these projects, parents receive some kind of training while they are participating in an early childhood program, whereas in about 200 of the projects, parents are not trained but participate (e.g., in advisory councils) in the planning of the projects.

Finally, the costs and cost/benefits of intervention programs are examined in about 5% of the early childhood research projects.

Table 11 allows a closer look at educational research, and displays a breakdown of research on instructional techniques (studied in 760 of the total 1416 projects on education). Individualized instruction continues to receive considerable attention in FY '74 (488 projects). It should be noted again that the 69 projects on bilingual instruction do not include the large number of bilingual research projects funded by the Division of Bilingual Education, within OE, for which information was not available at the time the data were collected.

Table 9

FY '74 Early Childhood Research
on the Delivery of Services,
by Category, Projects and Funding

Category	Projects		Funding	
	No.	%[a]	Amt.[b]	%[c]
Total Research on Delivery Systems	1143	49.5	158.9	66.5
Delivery of Education Services	849	36.8	132.8	55.5
Delivery of Health Services	300	13.0	52.5	22.0
Delivery of Special Education Services	259	11.2	29.1	12.2
Delivery of Welfare Services	180	7.8	16.6	6.9
Delivery of Day Care Services	56	2.4	4.1	1.7

Note. Categories are not mutually exclusive; they have been ranked according to number of projects.

[a]Percentage of total number of early childhood projects (2307).

[b]In millions of dollars.

[c]Percentage of total amount of early childhood funding ($239,093,763).

Table 10

FY '74 Early Childhood Research
on the Training of Individuals to Work with Children,
by Category, Projects and Funding

Category	Projects		Funding	
	No.	%[a]	Amt.[b]	%[c]
Total Research on Training of Individuals to Work with Children	737	32.0	113.0	47.3
Training of Educational Personnel	625	27.1	104.1	43.5
Training of Community Members	52	2.3	11.9	5.0
Training of Health Personnel	50	2.2	4.5	1.9
Training of Child Care Workers	33	1.4	1.7	0.7
Training of Welfare Services Personnel	28	1.2	2.5	1.1
Training of Peers	18	0.8	2.5	1.1
Training of Policy and Program Planners	11	0.5	1.5	0.6
Training of Neighborhood/ Community Workers	7	0.3	0.3	0.1

Note. Categories are not mutually exclusive; they have been ranked according to number of projects.

[a]Percentage of total number of early childhood projects (2307).

[b]In millions of dollars.

[c]Percentage of total amount of early childhood funding ($239,093,763).

Table 11

FY '74 Early Childhood Research on Education, by Instructional Technique, Projects and Funding

Instructional Technique	Projects		Funding	
	No.	%[a]	Amt.[b]	%[c]
Total Research on Instructional Techniques	760	32.9	117.1	49.0
Individualized Instruction	488	21.2	70.9	29.7
Open Schools and Classrooms	200	8.7	46.7	19.5
Tutorial Instruction	98	4.3	7.3	3.1
Bilingual Instruction	69	3.0	11.8	4.9
Television Instruction	43	1.9	21.8	9.1
Cross-age Instruction	40	1.7	3.5	1.5
Team Teaching	26	1.1	2.2	0.9

Note. Categories are not mutually exclusive; they have been ranked according to number of projects.

[a]Percentage of total number of early childhood projects (2307).

[b]In millions of dollars.

[c]Percentage of total amount of early childhood funding ($239,093,763).

The Research Process

As Table 12 demonstrates, most of the activity concerning the research process is carried out in connection with the development or refinement of instruments. (Applied educational research is primarily involved here.) Research focused directly on the design of research or on techniques of statistical analysis is sparse. Nine of the 27 design projects address longitudinal research issues. Studies of research bias (5 projects) involve the investigation of particular sources of unintended research influences (e.g., the effects of the experimenter's race or the cultural orientation of a task).

Research Target Groups

The distribution of early childhood research according to age or grade is presented in Table 13. Children in kindergarten through 4th grade are included in the research samples of almost half of the projects, while children three to five years old and infants are involved in 21% and 17% of the projects, respectively. Children between the ages of one and three still do not receive as much attention (300 projects) as either older or younger children.

Table 14 contains information about the backgrounds of children included in early childhood research populations. It should be noted, however, that the figures for SES, race, and environmental setting, in each case reflect less than half of all early childhood projects, due to insufficient information in many of the project proposals. Furthermore, it must be kept in mind that some socioeconomic levels, ethnic groups, and settings are more likely to be identified specifically than are others. For instance, the first section of the table indicates that disadvantaged children are included in 22% of the projects, while not-disadvantaged children are included in only 3%. Actually, the latter figure should be higher, since there are many projects where no information on SES was presented in the proposal for the very reason that the children involved were not disadvantaged or selected on the basis of any other particular characteristic of SES. The data in this table are probably most accurate with regard to disadvantaged, minority groups,

Table 12

FY '74 Early Childhood Research on the Research Process, by Category, Projects and Funding

Category	Projects		Funding	
	No.	%[a]	Amt.[b]	%[c]
Total Research on the Research Process	252	10.9	23.4	9.8
Instrumentation	173	7.5	18.7	7.8
Planning	90	3.9	6.1	2.6
Design	27	1.2	2.6	1.1
Statistical Analysis	12	0.5	0.7	0.3
Study of Research Bias	5	0.2	0.2	0.1

Note. Categories are not mutually exclusive; they have been ranked according to number of projects.

[a]Percentage of total number of early childhood projects (2307).

[b]In millions of dollars.

[c]Percentage of total amount of early childhood funding ($239,093,763).

Table 13

FY '74 Early Childhood Research,
by Age Group, Projects and Funding

Category	Projects		Funding	
	No.	%[a]	Amt.[b]	%[c]
Kindergarten to Fourth Grade	1115	48.3	141.5	59.2
Preschool (Three to Five Years)	488	21.2	38.8	16.2
Infancy (Birth to One Year)	388	16.8	28.4	11.9
One to Three Years	300	13.0	24.5	10.3
Prenatal	96	4.2	6.4	2.7

Note. Categories are not mutually exclusive; they have been ranked according to number of projects. Not reflected in this table are 748 (32%) of the early childhood projects, for which information on particular age ranges (other than childhood in general) was not available.

[a]Percentage of total number of early childhood projects (2307).

[b]In millions of dollars.

[c]Percentage of total amount of early childhood funding ($239,093,763).

Table 14

FY '74 Early Childhood Research
by Demographic Category, Projects and Funding

Category	Projects No.	Projects %[a]	Funding Amt.[b]	Funding %[c]
Socioeconomic Status[d]				
Disadvantaged	508	22.0	83.7	35.0
Mixed SES	243	10.5	26.1	10.9
Not Disadvantaged	71	3.1	4.0	1.7
Race or Ethnic Group[e]				
White	339	14.7	53.6	22.4
Black	302	13.1	57.0	23.8
American Indian	189	8.2	26.7	11.2
Spanish-surnamed	150	6.5	35.7	14.9
American Oriental	20	0.9	3.6	1.5
Environmental Setting[f]				
Urban	470	20.4	58.4	24.4
Rural	255	11.1	34.5	14.4
Indian Reservation	92	4.0	8.9	3.7
Inner City	76	3.3	8.4	3.5
Suburban	65	2.8	5.7	2.4
International	62	2.7	4.2	1.8

Note. Categories are not mutually exclusive; they have been ranked within major divisions of the table according to number of projects.

[a]Percentage of total number of early childhood projects (2307).

[b]In millions of dollars.

[c]Percentage of total amount of early childhood funding ($239,093,763).

[d]Does not reflect 1588 (68.8%) of early childhood projects, for which information on SES was not available.

[e]Does not reflect 1476 (64.0%) of early childhood projects, for which information on race/ethnic group was not available.

[f]Does not reflect 1392 (60.3%) of early childhood projects, for which information on setting was not available.

Table 15

FY '74 Research on Children
with Special Characteristics,
by Categories, Projects and Funding

Category	Projects		Funding	
	No.	%[a]	Amt.[b]	%[c]
Physically Handicapped	306	13.3	33.7	14.1
Visually or Aurally Handicapped	138	6.0	20.0	8.4
Neurologically Handicapped	81	3.5	6.2	2.6
Speech Handicapped	77	3.3	7.4	3.1
Orthopedically Handicapped	48	2.1	4.0	1.7
Intellectually Handicapped	304	13.2	28.6	12.0
Mentally Retarded	185	8.0	18.9	7.9
Learning Disabled	152	6.6	13.7	5.7
Emotionally Disturbed	197	8.5	14.1	5.9
Academically Slow	168	7.3	13.7	5.7
Physically Ill	135	5.9	8.4	3.5
Bilingual	105	4.6	16.7	7.0
Abused	26	1.1	2.9	1.2
Gifted	7	0.3	0.9	0.4

Note. Categories are not mutually exclusive; they have been ranked within the table and within the category divisions according to number of projects.

[a]Percentage of total number of early childhood projects (2307).

[b]In millions of dollars.

[c]Percentage of total amount of early childhood funding ($239,093,763).

rural, Indian reservation, and international, and least accurate with regard to not disadvantaged, white, urban and suburban.

Finally, research on children with special characteristics is analyzed in Table 15. It can be seen that the physically handicapped and the intellectually handicapped receive equivalent amounts of attention in early childhood research (slightly more than 13% in each case).

CHAPTER IV

DESCRIPTION AND ANALYSIS OF FY '74 EARLY CHILDHOOD RESEARCH, BY AGENCY

The FY '74 early childhood research of each of the agencies on the Interagency Panel is described and analyzed in this chapter. A list of the agencies was presented in Table 1 in Chapter III (along with the number of FY '74 early childhood projects and amount of funding for each agency).

In the pages that follow, a separate section of the chapter is devoted to each agency. In these analysis sections, which have the same general format (with some minor variations to be explained below), key data are presented concerning the agencies' FY '74 early childhood research programs. The analysis sections begin with the figures for the agency's FY '74 early childhood projects and funding. In most agencies, information was collected on all projects which were active in FY '74. These include projects which received funds in FY '74 and projects which did not, but were still operating on funds allocated in a prior fiscal year. While the latter kind of research activity is reflected in the project figures, the funding figures shown in this report refer only to FY '74 monies. Agencies for which the analyses reflect a large number of projects funded in a prior fiscal year are NIE and NIMH. The NICHD analysis, on the other hand, includes no grants which were funded prior to FY '74, although it does include active contracts funded both in FY '74 and prior years.

A concise statement of the agency's fundamental mission with respect to early childhood research and development activity is also presented on the first page of each analysis section. Note that for many agencies this mission may constitute only a part of the overall research mission. Following the mission statement is a brief description of some of the most salient aspects of the agency's FY '74 research program.

The remaining portion of the analysis section is tabular, beginning with a bar chart illustrating the percentage of the agency's FY '74 early childhood research devoted to each of 29 key research areas, approaches,

and target groups, and a table indicating the distribution of research according to five major kinds (or purposes) of projects: basic, applied, evaluation, planning of research, and research support and utilization. The agency's research activity is broken down further into selected categories in some combination of five tables. The general areas focused on by these tables are: (1) physical, cognitive and socioemotional development; (2) the family; (3) instructional techniques; (4) handicapped children; and (5) delivery systems. If an agency does not support a substantial amount of activity related to one of these general areas, the table (or section of the table) is omitted. Furthermore,within each table, a category is omitted if none of the agency's projects pertain to it.

There are three member agencies from which information was collected for the information system, but which are not included in the following analysis sections because of the relatively small number of projects involved. The Department of Labor supports two projects in FY '74 in the area of childhood. One is the demonstration of an employer-sponsored day care model; the other is a longitudinal study of educational achievement and status in adulthood. The National Institute on Alcohol Abuse and Alcoholism supports four projects related to children. Two of the projects involve planning and developing alcohol education models for school children. The other two are investigations of the characteristics of children of alcoholics (e.g., their mental health and their tendency to develop alcoholism). The National Institute of Drug Abuse supports research (19 projects) on children in the following areas: (1) drug addicted infants, specifically their treatment and subsequent development; (2) the development and delivery of drug education to school children; and (3) the treatment of drug addicted children, including the development of personnel for this purpose.

Office of Child Development,
Office of Human Development,
Office of the Secretary, DHEW

- FY '74 Funding of Early Childhood Research: $8.1 million

- Number of Early Childhood Research Projects Active in FY '74: 92

- Mission and/or Functions in Early Childhood Research:

The Office of Child Development advises within the Federal government on matters pertaining to the care and development of children and assists in the development of national policies and programs which have a significant impact on the well-being of children and their families. The Office develops information on problems and trends affecting child life, analyzes information on programs serving children, recommends and reviews legislative proposals in the area of early childhood development and child welfare, and provides leadership in the development of priorities and strategies for childhood research, demonstration, and experimental efforts. In addition, through such activities as the development of model legislation and standards, the provision of technical assistance, and the conduct of demonstration projects, OCD seeks to stimulate institutional changes at the Federal, State and local level in order to improve the delivery of services to children and families, particularly those children and families who are most at risk due to economic disadvantage or other vulnerabilities. Major programmatic activities conducted by the Office of Child Development are focused on meeting the developmental needs of preschool-age children from low-income families and on improving services to particular populations of vulnerable children such as the abused or neglected, children in foster care, children in need of adoptive homes, and children in institutions. OCD conducts a variety of research and demonstration activities designed to improve the quality of children's programs (e.g., day care, emergency services, etc.) and to measure their impact on the children and families served.

Description of FY '74 Early Childhood Research Activity

In Table 16 it can be seen that about half of all of OCD's early childhood projects were classified as applied research, although significant portions of its projects involved basic research (29%) and research support and utilization (11%). In FY '74 OCD increased its support of projects that focused on child development in the context of the family. Emphasis was placed on studying the interrelationships between the child, the family and the broader social and institutional environment. The relatively high figures in the categories of cognitive development (40%), social development (46%), the family (42%), parent involvement and education (30%), the neighborhood and community (21%), and cultural/

socioeconomic/religious influences (24%) reflect the large amount of activity in this area. The high degree of overlap in these figures results in part from the large number of projects that study combinations of several of these variables.

Welfare services were the concern of 27% of OCD FY '74 early childhood projects. Important research issues related to promoting child welfare included studies designed to improve the identification, treatment and prevention of child abuse, studies of child advocacy services, and studies of the legal rights of children. Primary emphasis in child abuse research was placed on the development of preventive strategies. The advocacy studies were designed to determine the type of delivery systems needed for effective intervention into service and institutional systems on behalf of children.

Other areas of research effort included studies of the role of television as a socializing agent in the lives of children, day care, and the return of children from residential institutions to community settings.

Language development, cognitive achievement, socialization and attitudes and social behavior were the specific subcategories of research that figured most prominently in studies on the developmental processes (Table 17).

With regard to the family (Table 18), intrafamily realtionships, the influence of the family on the child, child rearing practices, the interface of family and society, and family structure all were topics that received substantial attention.

Figure 4

Percentage of OCD FY '74 Early Childhood Research Projects (N=92)

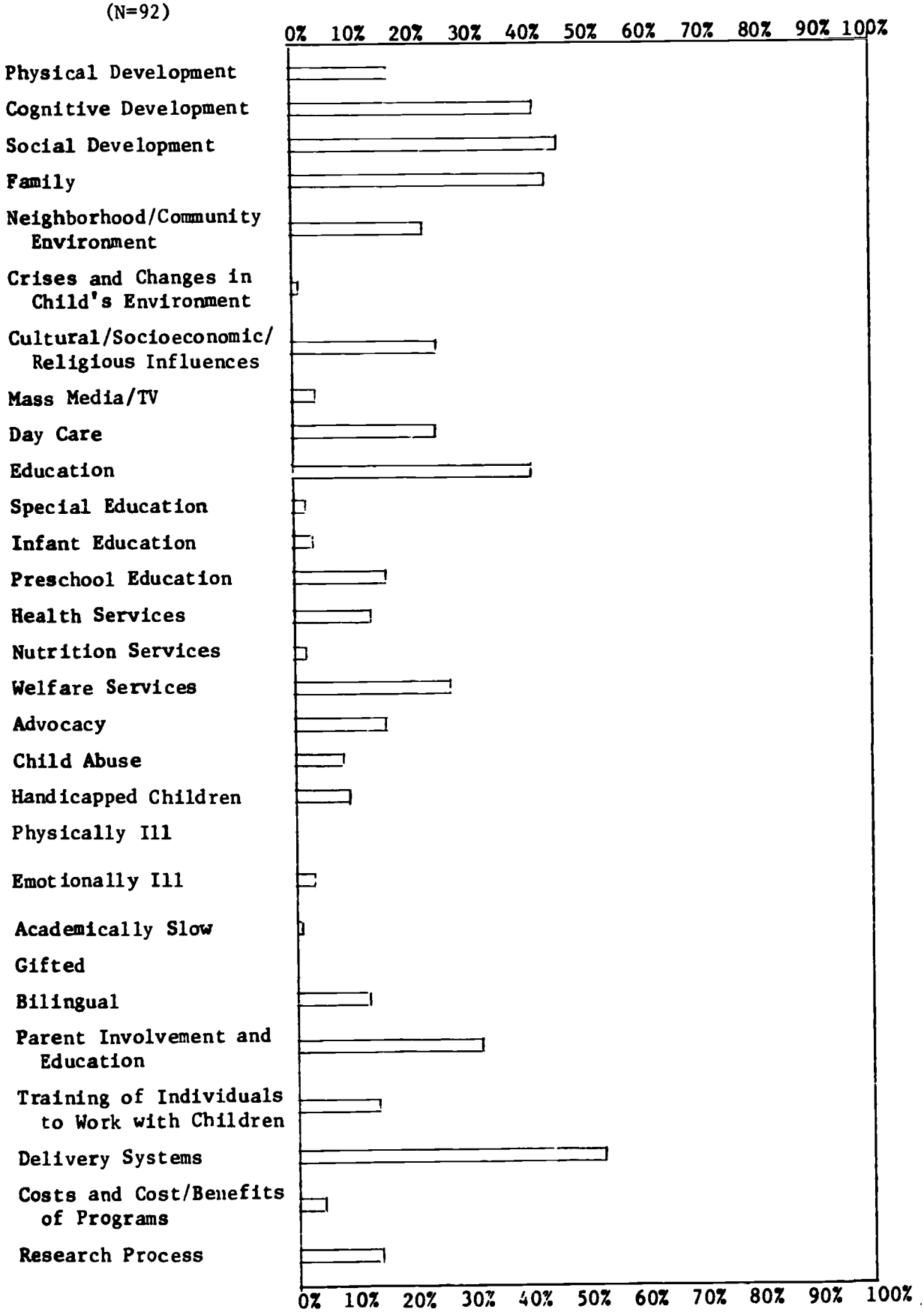

Table 16

Distribution of OCD FY '74
Early Childhood Projects, by Kind of Research

Kind of Research	%[a]
Basic	29.3
Applied	47.8
Pilot Study	3.3
Development	6.5
Demonstration and/or Replication	10.9
Evaluation	9.8
Planning	2.2
Research Support and Utilization Activities	10.9

Note. Categories are mutually exclusive, except that the applied research category subsumes the three subcategories indented below it (thus only the figures shown for the five general categories should sum to 100%).
[a]Percentage of total OCD FY '74 early childhood research (92 projects).

Table 17

Breakdown of OCD FY '74 Early Childhood Research Projects
on Cognitive and Socioemotional Development

Category	%[a]
Total Research on Cognitive Development	40.2
Language	15.2
Achievement	13.0
Thought Processes	9.8
I.Q.	9.8
Perception/Attention	3.3
Intellectual Handicaps	1.1
Total Research on Socioemotional Development	45.7
Social Development	27.2
Attitudes/Behavior	18.5
Personality	10.9
Emotional Development	9.8

Note. Categories are not mutually exclusive; they are ranked according to percentage.
[a]Percentage of total OCD FY '74 early childhood research (92 projects).

Table 18

Breakdown of OCD FY '74 Early Childhood Research Projects on the Family

Category	%[a]
Total Research on Family	42.4
Intrafamily Relationships	30.4
Influence of Family on Child	19.6
Child Rearing	17.4
Family/Society Interface	16.3
Family Structure	12.0
Ecology of the Home	7.6
Family Health	3.3

Note. Categories are not mutually exclusive; they are ranked according to percentage.

[a]Percentage of total OCD FY '74 early childhood research (92 projects).

Table 19

Breakdown of OCD FY '74 Early Childhood Research Projects on Delivery Systems

Category	%[a]
Total Research on Delivery Systems	51.1
Day Care Delivery	20.7
Welfare Delivery	20.7
Instruction Delivery	16.3
Health Delivery	9.8
Special Ed. Delivery	2.2

Note. Categories are not mutually exclusive; they are ranked according to percentage.

[a]Percentage of total OCD FY '74 early childhood research (92 projects).

Office of the Assistant Secretary for Planning and Evaluation
Office of the Secretary, DHEW

● Mission and/or Functions in Early Childhood Research:*

The Office of the Assistant Secretary for Planning and Evaluation (OASPE) serves as staff to the Secretary, DHEW. OASPE is comprised of several divisions which have specific responsibilities for the areas of health, education, income maintenance, and social services/human development. Within OASPE, primary responsibilities for childhood research and evaluation include: (1) ensuring the policy relevance and substantive merit of agency research and evaluation plans and specific projects; (2) initiating some extramural research and evaluation activities on childhood-related policy issues which cut across individual agency concerns or fall outside the current purview of any single DHEW agency; and (3) supporting in-house analyses of research and evaluation findings and literature as they pertain to particular childhood-related policy issues.

OASPE's role in carrying out its responsibilities in agency-supported research and evaluation include both facilitating and monitoring. In facilitating the development of agency plans and projects, members of OASPE function as professional peers, offering technical assistance and informal recommendations to agencies and their staff and encouraging interagency coordination of research and evaluation activities.

In its monitoring role, OASPE conducts a formal review of the substantive aspects of agency research and evaluation plans and projects and recommends approval or disapproval to the Secretary.

Some child-related research is supported throughout the various divisions of OASPE. Extramural research projects related to children, but not targeted specifically on children, which are supported by the Division of Social Services/Human Development in OASPE include: a study of long term care services and cost implications for the developmentally disabled; a study of the cost of developmental disabilities long term care in the states of California and Colorado; a design task for surveying institutionalized persons.

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*Since information about specific research projects administered through OASPE was not collected, no project or funding data are presented. While all divisions of OASPE carry out comparable functions, this mission statement pertains primarily to the Division of Social Services/Human Development.

The Social and Rehabilitation Service, DHEW

- FY '74 Funding of Early Childhood Research: $1.4 million

- Number of Early Childhood Research Projects Active in FY '74: 52

- Mission and/or Functions in Early Childhood Research:

The Social and Rehabilitation Service provides income maintenance, rehabilitation, and other social services to people in need. Among its research and development goals are the following: to develop methods of improving the services of community facilities through services integration and other innovative methods, to develop methods of increasing SRS client independence, particularly by developing alternatives to institutional care, and to develop and demonstrate improved methods of research utilization. Research which contributes to child welfare is conducted in such areas as protective services for neglected and abused children, adoption, foster care, day care, and rehabilitation and training for handicapped children.

Description of FY '74 Early Childhood Research Activity

Research related to early childhood is supported by several divisions of SRS, although a majority of the research reported here was administered by the Rehabilitation and Training Centers. As reflected in Figure 5, the research in these centers was designed to improve the diagnosis, treatment, and rehabilitation of children who are physically and mentally handicapped (14%) and physically ill (17%). Much of the work related these health issues to various aspects of child development, which accounts in part for the levels of activity shown for physical (17%), cognitive (39%) and social development (8%). Table 21 indicates that language, thought processes and achievement were the most frequently studied aspects of cognitive development.

Research on health services (23%) supported by SRS included studies of the Early and Periodic Screening, Diagnosis and Treatment services to children eligible for health care under Medicaid legislation.

Day care and welfare services, especially foster care, continued to receive attention in FY '74. A number of demonstration projects were funded in these areas, many of which stressed instruction in parenting skills and evaluated various service delivery systms. The relationships between services, various family circumstances, and child development were also studied.

Figure 5

Percentage of SRS FY '74 Early Childhood Research Projects (N=52)

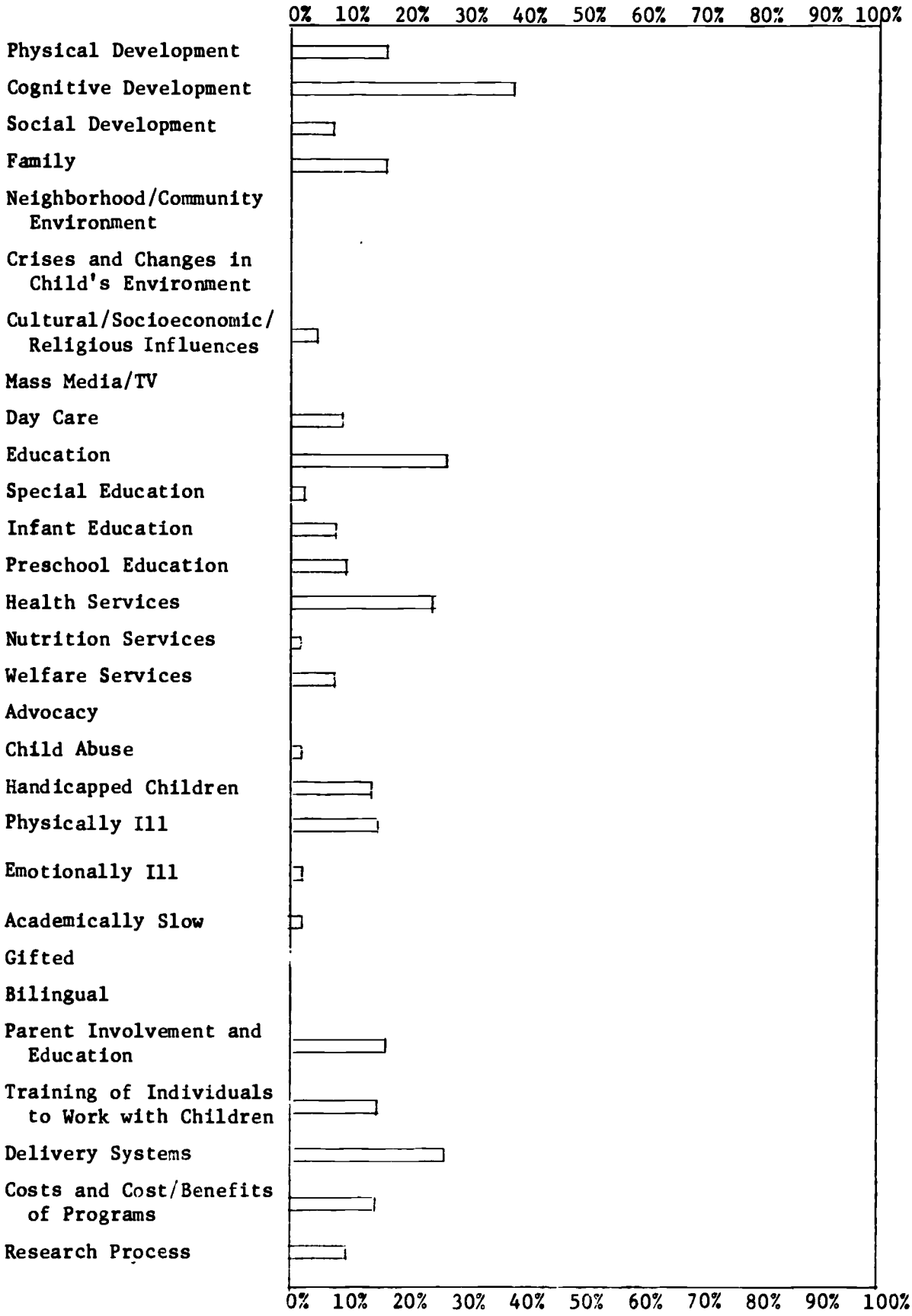

Table 20

Distribution of SRS FY '74
Early Childhood Projects, by Kind of Research

Kind of Research	%[a]
Basic	30.7
Applied	63.5
Pilot Study	0.0
Development	7.7
Demonstration and/or replication	25.0
Evaluation	5.8
Planning	0.0
Research Support and Utilization Activities	0.0

Note. Categories are mutually exclusive, except that the applied research category subsumes the three subcategories indented below it (thus only the figures shown for the five general categories should sum to 100%).

[a]Percentage of total SRS FY '74 early childhood research (52 projects).

Table 21

Breakdown of SRS FY '74 Early Childhood Research Projects
on Physical and Cognitive Development

Category	%[a]
Total Research on Physical Development	17.3
Physical Disease or Illness	13.5
Motor Development	1.9
Pregnancy and Childbirth	1.9
Physical Handicaps	1.9
Total Research on Cognitive Development	38.5
Language	19.2
Thought Processes	15.4
Achievement	13.5
Perception/Attention	1.9

Note. Categories are not mutually exclusive; they are ranked according to percentage.

[a]Percentage of total SRS FY '74 early childhood research (52 projects).

Table 22

Breakdown of SRS FY '74 Early Childhood Research Projects on the Family

Category	%[a]
Total Research on Family	17.
Intrafamily Relationships	9.6
Family Health	5.8
Ecology of the Home	1.9
Family Structure	1.9
Child Rearing	1.9
Family/Society Interface	1.9

Note. Categories are not mutually exclusive; they are ranked according to percentage.

[a]Percentage of total SRS FY '74 early childhood research (52 projects).

Table 23

Breakdown of SRS FY '74 Early Childhood Research Projects on Delivery Systems

Category	%[a]
Total Research on Delivery Systems	26.9
Day Care Delivery	9.6
Health Delivery	9.6
Instruction Delivery	7.7
Welfare Delivery	7.7

Note. Categories are not mutually exclusive; they are ranked according to percentage.

[a]Percentage of total SRS FY '74 early childhood research (52 projects).

National Institute of Child Health and Human Development
National Institutes of Health, DHEW

- FY '74 Funding of Early Childhood Research: $20.6 million
- Number of Early Childhood Research Projects Active in FY '74: 286*
- Mission and/or Functions in Early Childhood Research:

NICHD supports research in the basic processes of human development, including the biomedical processes, as well as those involved in social and behavioral development. Three main areas of investigation relate to early childhood: growth and development, mental retardation, and perinatal biology and infant mortality.

Description of FY '74 Early Childhood Research Activity

In FY '74 NICHD conducted research in a wide range of biological, behavioral and clinical sciences designed to study both the normal and the abnormal development of children and related child health issues. Emphasis was placed on all the developmental processes: physical (71%), cognitive (31%), and social (14%). About half of the cognitive development projects focus on perception and attention (15%) and/or thought processes (16%). The large physical development figure reflects NICHD's commitment to research on health issues. As Table 25 indicates, 33% of the work is on physical disease and 31% on pregnancy and childbirth.

Research in child health is administered through three branches or programs: (1) Perinatal Biology and Infant Mortality; (2) Mental Retardation; and (3) Growth and Development. Among the primary concerns in Perinatal Biology and Infant Mortality research are the Sudden Infant Death Syndrome, low birthweight, maternal health and embryonic development.

Table 27 shows that most research on handicapped children concerned the mentally retarded (14%). In Mental Retardation high priority is placed on

*This project figure includes 19 intramural projects, contracts which were active in FY '74 (including those operating on funds from prior fiscal years), seven projects funded by other agencies and administered by NICHD, and grants which were funded in FY '74. (No grants funded prior to FY '74 are included.) Note that the funding figure at the top of the page does not reflect the contracts funded prior to FY '74 or the seven projects funded by other agencies.

studies of the epidemiology and etiology of mental retardation, cytogenetics, inborn errors of metabolism, and prevention, early diagnosis and treatment. The Growth and Development studies include work in the areas of physical growth and maturation, nutrition, behavioral, cognitive and social development, prevention of accidental injury, developmental immunology and developmental pharmacology.

The research program as a whole is characterized by the large amount of basic research (73%), much of which is long term and longitudinal.

Table 24

Distribution of NICHD FY '74
Early Childhood Projects, by Kind of Research

Kind of Research	%[a]
Basic	73.4
Applied	19.9
Pilot Study	0.7
Development	4.2
Demonstration and/or replication	0.0
Evaluation	3.5
Planning	0.7
Research Support and Utilization Activities	2.5

Note. Categories are mutually exclusive, except that the applied research category subsumes the three subcategories indented below it (thus only the figures shown for the five general categories should sum to 100%).

[a]Percentage of total NICHD FY '74 early childhood research (286 projects).

Figure 6

Percentage of NICHD FY '74 Early Childhood Research Projects (N=286)

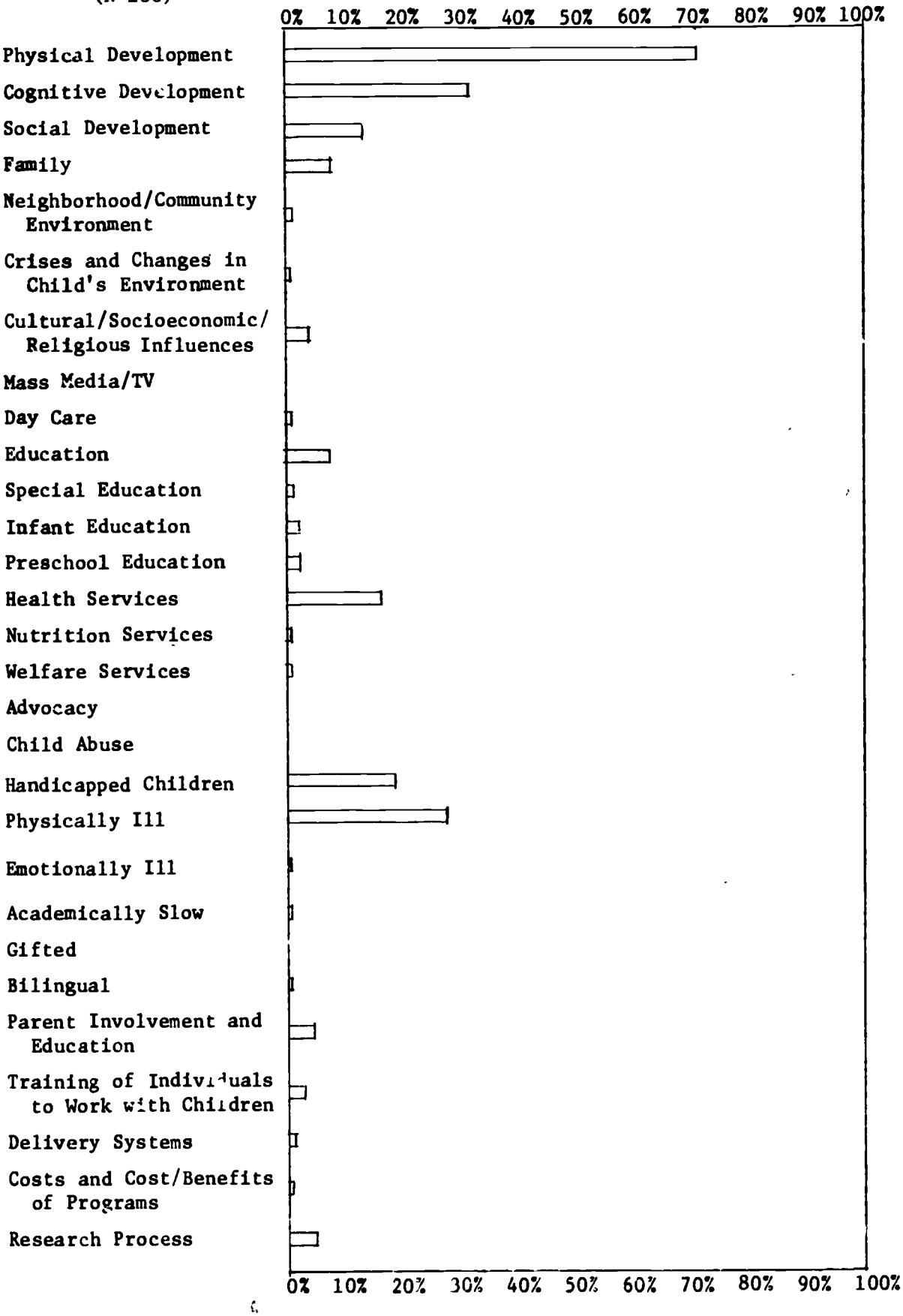

Table 25

Breakdown of NICHD FY '74 Early Childhood Research Projects on Physical, Cognitive and Socioemotional Development

Category	%[a]
Total Research on Physical Development	71.3
Physical Disease or Illness	32.5
Pregnancy and Childbirth	30.7
Body Growth	25.5
Physical Handicaps	7.7
Sensory Development	5.2
Motor Development	5.2
Accident/Poisoning	0.7
Total Research on Cognitive Development	31.1
Thought Processes	15.7
Perception/Attention	14.7
Language	10.1
Achievement	10.1
Intellectual Handicaps	4.2
I.Q.	2.1
Reading	1.4
Total Research on Socioemotional Development	13.6
Social Development	7.3
Attitudes/Behavior	5.6
Personality	4.2
Emotional Development	3.9
Emotional Illness	0.4

Note. Categories are not mutually exclusive; they are ranked according to percentage.

[a]Percentage of total NICHD FY '74 early childhood research (286 projects).

Table 26

Breakdown of NICHD FY '74 Early Childhood Research Projects on the Family

Category	%[a]
Total Research on Family	9.4
Intrafamily Relationships	5.9
Family Structure	2.8
Influence of Family on Child	2.8
Family Health	1.4
Child Rearing	1.1
Ecology of the Home	1.1
Family/Society Interface	0.7

Note: Categories are not mutually exclusive; they are ranked according to percentage.

[a]Percentage of total NICHD FY '74 early childhood research (286 projects).

Table 27

Breakdown of NICHD FY '74 Early Childhood Research Projects Relating to Handicapped Children

Category	%[a]
Total Research on Handicapped Children	19.6
Mentally Retarded	13.6
Neurologically Handicapped	3.2
Visually or Aurally Handicapped	1.8
Learning Disabled	1.4
Speech Handicapped	0.7

Note. Categories are not mutually exclusive; they are ranked according to percentage.

[a]Percentage of total NICHD FY '74 early childhood research (286 projects).

National Institute of Neurological Diseases and Stroke
National Institutes of Health, DHEW

- FY '74 Funding of Early Childhood Research: $7.9 million
- Number of Early Childhood Research Projects Active in FY '74: 85
- Mission and/or Functions in Early Childhood Research:

The National Institute of Neurological Diseases and Stroke (NINDS) acknowledges a special mission to further both basic and applied research in the neurological and communicative disorders relating to early childhood. Special priority for applied research effort is given to problems affecting a significant number of children and/or a significant number of person years, problems which have some prospect of a useful resolution, or substantial progress toward resolution, within a finite number of years, and problem areas not presently being addressed by other Federal agencies.

Description of FY '74 Early Childhood Research Activity

The NINDS general mission is reflected clearly in Figure 7, which shows a heavy concentration of activity related to physical development (99%), handicapped children (59%), health services (29%), physically ill children (28%) and cognitive development (19%).

Table 29 indicates that 25% of the FY '74 projects concern some aspect of pregnancy and childbirth. In FY '74 NINDS research included a number of analyses of data collected in the Collabaorative Perinatal Project, a comprehensive investigation of 58,000 women during their pregnancies and the subsequent development of the children born of these pregnancies. Basic analyses were carried out in the primary areas of cerebral palsy, mental retardation, communicative disorders, vision, convulsion, learning and education disorder, minimal brain dysfunction, neuropathology-epidemiology of death, birthweight-gestation, and congenital malformation.

Other NINDS research in FY '74 included studies designed to improve the prevention, diagnosis and treatment of neurological disorders in children, such as hearing disorders, communicative handicaps, delayed or disordered language development, convulsive disorders and learning and behavior disorders. Research was also supported on neurological diseases (viral, metabolic, and degenerative) which affect children.

This orientation is evident in the relatively high percentage of research in which perception/attention (14%) and language (12%) are investigated. Table 30 presents information about the types of handicapped child targeted by NINDS research.

Kinds of research ranged from basic research on the nature of these problems to development of treatment devices and techniques.

Table 28

Distribution of NINDS FY '74
Early Childhood Projects, by Kind of Research

Kind of Research	%[a]
Basic	64.7
Applied	34.1
Pilot Study	12.9
Development	8.2
Demonstration and/or replication	0.0
Evaluation	0.0
Planning	1.2
Research Support and Utilization Activities	0.0

Note. Categories are mutually exclusive, except that the applied research category subsumes the three subcategories indented below it (thus only the figures shown for the five general categories should sum to 100%).

[a]Percentage of total NINDS FY '74 early childhood research (85 projects).

Figure 7

Percentage of NINDS FY '74 Early Childhood Research Projects
(N=85)

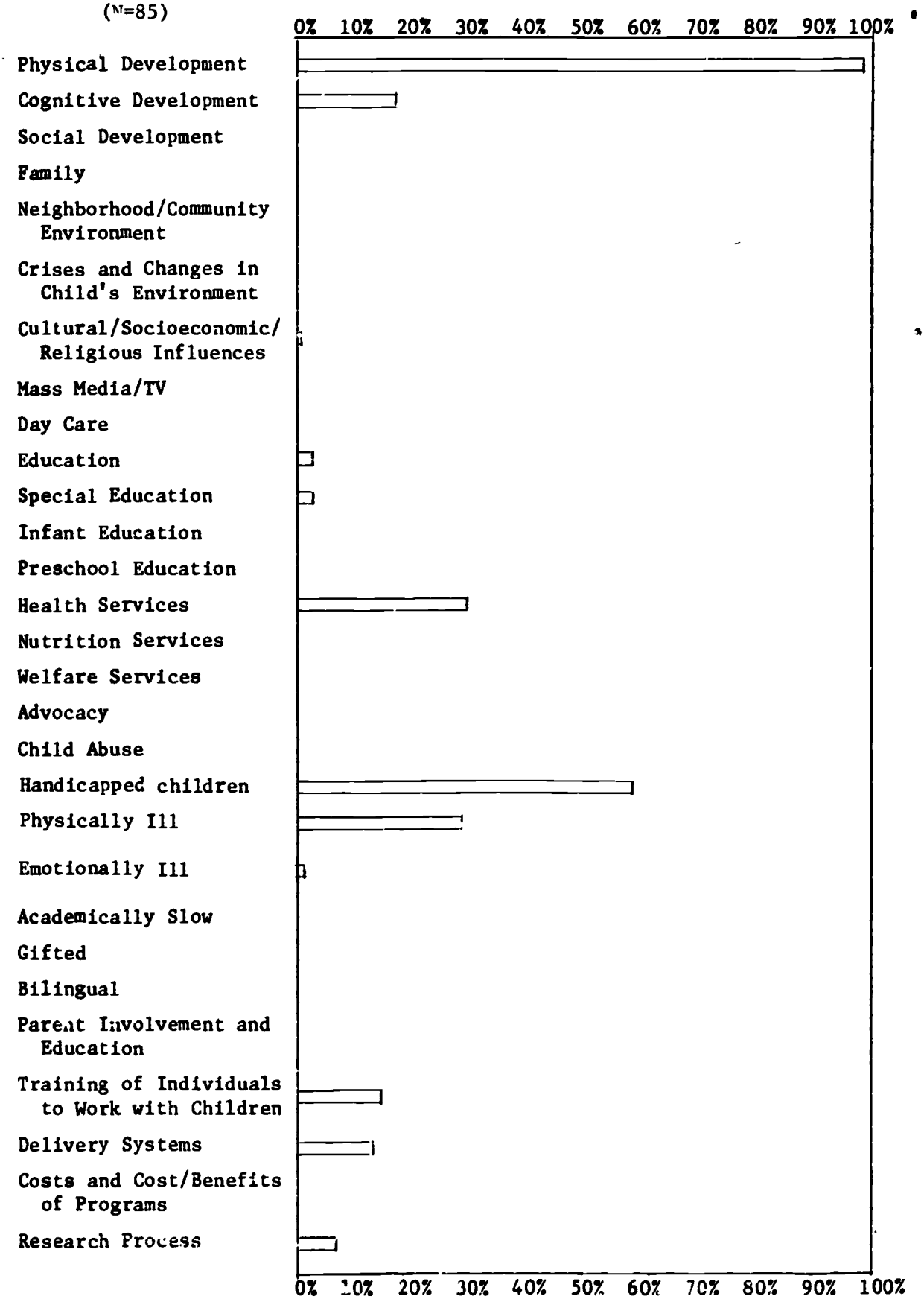

Table 29

Breakdown of NINDS FY '74 Early Childhood Research Projects on Physical and Cognitive Development

Category	%[a]
Total Research on Physical Development	98.8
Physical Disease or Illness	54.1
Sensory Development	44.7
Physical Handicaps	27.1
Body Growth	25.9
Pregnancy and Childbirth	24.7
Motor Development	17.7
Accident/Poisoning	11.8
Total Research on Cognitive Development	18.8
Perception/Attention	14.1
Language	11.8
Thought Processes	4.7
Intellectual Handicaps	3.5
Reading	2.4
I.Q.	1.2
Achievement	1.2

Note. Categories are not mutually exclusive; they are ranked according to percentage.

[a]Percentage of total NINDS FY '74 early childhood research (85 projects).

Table 30

Breakdown of NINDS FY '74 Early Childhood
Research Projects Relating to Handicapped Children

Category	%[a]
Total Research on Handicapped Children	58.8
Visually or Aurally Handicapped	29.4
Neurologically Handicapped	23.5
Learning Disabled	10.6
Mentally Retarded	8.2
Speech Handicapped	5.9
Orthopedically Handicapped	1.2

Note. Categories are not mutually exclusive; they are ranked according to percentage.

[a]Percentage of total NINDS FY '74 early childhood research (85 projects).

National Institute of Mental Health
Alcohol, Drug Abuse, and Mental Health Administration, DHEW

- FY '74 Funding of Early Childhood Research: $18.0 million
- Number of Early Childhood Research Projects Active in FY '74: 423*
- Mission and/or Functions in Early Childhood Research:

The objectives of the research program of NIMH are to provide support of research on the etiology, diagnosis, treatment, prevention and control of mental illness, and the promotion of mental health. NIMH is primarily responsible, therefore, for the support of applied, clinical and basic research aimed either at the resolution of specific problems of mental and emotional illness, or at the augmenting of knowledge regarding the parameters of human behavior--including its prediction and control. Areas of investigation are varied, spanning a continuum from the investigation of basic cognitive, personality and socialization processes, through the development of research methodologies, to study of intervention programs and other environmental influences which may affect the healthy emotional and cognitive growth of all children.

Description of FY '74 Early Childhood Research Activity

In FY '74 the NIMH research program placed heavy emphasis on the developmental processes--primarily the socioemotional development of children which was studied in 60% of the projects (Figure 8). Frequently studied topics included the development of attitudes towards self, the socialization of the child and emotional development. In the area of cognitive development, the child's thought processes and language development (especially as they relate to non-intellective factors) were often investigated. The study of the family as it relates to child development received considerable attention as illustrated by the figures in Table 33. For example, intrafamily relationships were a factor in 27% of the work, while family structure was an area of concern in 15% of the projects. Also noticeable is the amount of research which investigated the neighborhood and community environment (15%) and the cultural, socioeconomic or religious environment (16%). Many of the studies attempt to identify factors associated with sound child mental health and to elucidate the process of healthy family and social functioning. However, 25%

*This figure includes 21 intramural projects for which no funding is reported.

of the NIMH research was concerned with the causes, needs and treatment of mental and emotional illness in children. The special needs of handicapped and physically ill children were also studied in 15% and 4% of the studies respectively. Activity in the area of child abuse should also be noted.

Research related to services for children and service delivery covered a wide range of areas such as education (30%), health services (21%) and welfare services (16%) as well as day care and child advocacy.

Table 31

Distribution of NIMH FY '74
Early Childhood Projects, by Kind of Research

Kind of Research	%[a]
Basic	44.4
Applied	45.9
Pilot Study	0.5
Development	7.6
Demonstration and/or replication	10.4
Evaluation	5.2
Planning	0.5
Research Support and Utilization Activities	4.0

Note. Categories are mutually exclusive, except that the applied research category subsumes the three subcategories indented below it (thus only the figures shown for the five general categories should sum to 100%).

[a]Percentage of total NIMH FY '74 early childhood research (423 projects).

Figure 8

Percentage of NIMH FY '74 Early Childhood Research Projects (N=423)

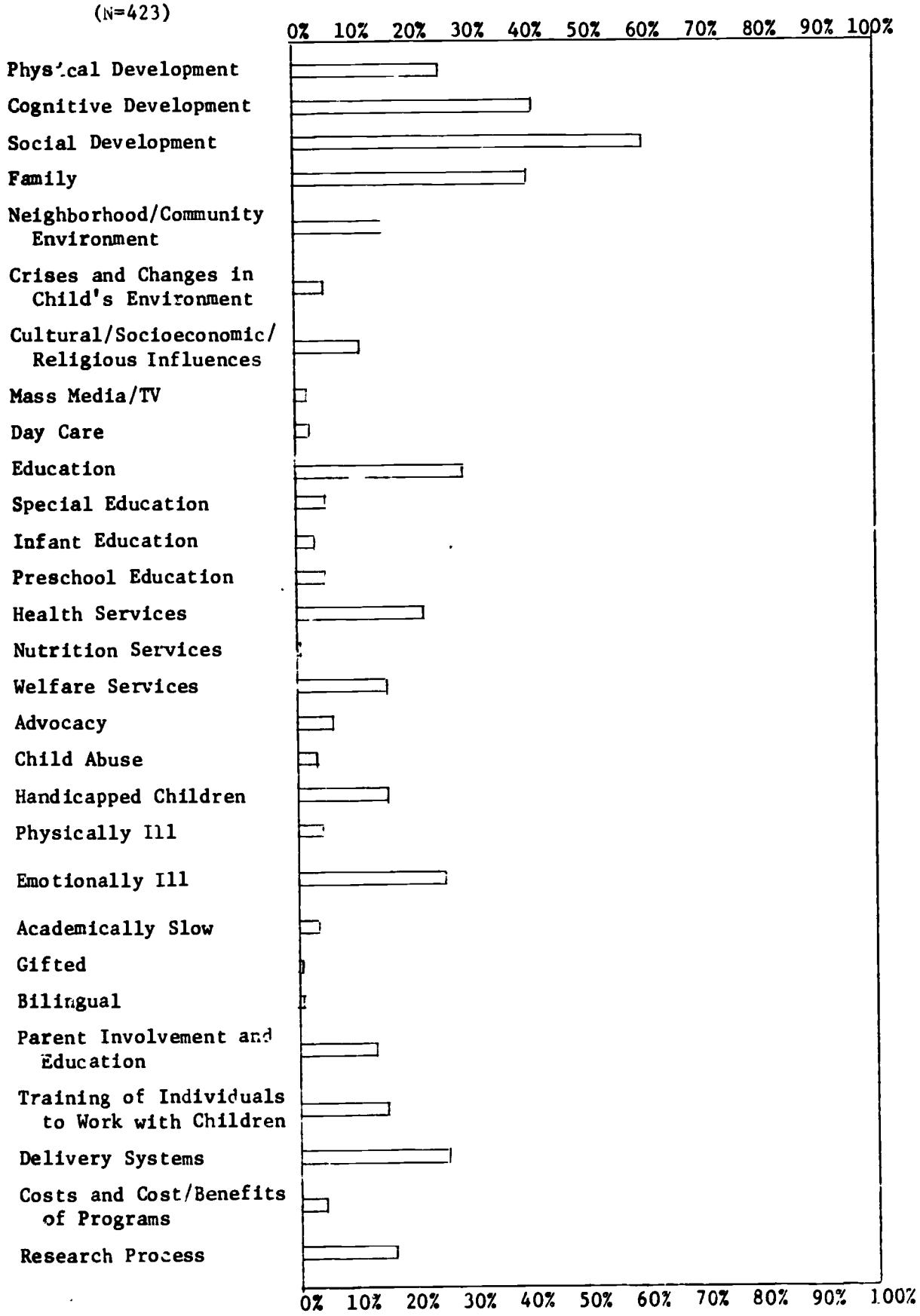

Table 32

Breakdown of NIMH FY '74 Early Childhood Research Projects on Physical, Cognitive and Socioemotional Development

Category	%[a]
Total Research on Physical Development	25.5
Motor Development	6.6
Body Growth	5.7
Sensory Development	4.5
Physical Disease or Illness	4.0
Physical Handicaps	3.1
Pregnancy and Childbirth	2.8
Total Research on Cognitive Development	41.4
Thought Processes	21.5
Achievement	14.0
Perception/Attention	12.3
Language	9.9
I.Q.	6.6
Intellectual Handicaps	3.6
Reading	1.7
Total Research on Socioemotional Development	60.3
Attitudes/Behavior	34.3
Social Development	24.6
Emotional Development	19.6
Emotional Illness	11.1
Personality	9.5

Note. Categories are not mutually exclusive; they are ranked according to percentage.

[a]Percentage of total NIMH FY '74 early childhood research (423 projects).

Table 33

Breakdown of NIMH FY '74 Early Childhood Research Projects on the Family

Category	%[a]
Total Research on Family	40.4
Intrafamily Relationships	26.5
Family Structure	15.4
Family Health	12.5
Influence of Family on Child	11.6
Child Rearing	8.8
Family/Society Interface	3.1
Ecology of the Home	1.0

Note. Categories are not mutually exclusive; they are ranked according to percentage.

[a]Percentage of total NIMH FY '74 early childhood research (423 projects).

Table 34

Breakdown of NIMH FY '74 Early Childhood Research Projects Relating to Handicapped Children

Category	%[a]
Total Research on Handicapped Children	15.1
Neurologically Handicapped	6.6
Mentally Retarded	5.9
Learning Disabled	2.6
Visually or Aurally Handicapped	1.7
Speech Handicapped	0.7
Orthopedically Handicapped	0.2

Note. Categories are not mutually exclusive; they are ranked according to percentage.

[a]Percentage of total NIMH FY '74 early childhood research (423 projects).

Table 35

Breakdown of NIMH FY '74 Early Childhood Research Projects on Delivery Systems

Category	%[a]
Total Research on Delivery Systems	25.8
Welfare Delivery	13.2
Health Delivery	12.3
Instruction Delivery	7.3
Special Ed. Delivery	1.4
Day Care Delivery	1.2

Note. Categories are not mutually exclusive; they are ranked according to percentage.

[a]Percentage of total NIMH FY '74 early childhood research (423 projects).

Bureau of Community Health Services
Health Services Administration
Public Health Service, DHEW

- FY '74 Funding of Early Childhood Research: $3.6 million
- Number of Early Childhood Research Projects Active in FY '74: 58
- Mission and/or Functions in Early Childhood Research:

The purpose of the Maternal and Child Health and Crippled Children's Services research grants program of BCHS is to support scientific studies that show promise of improving the operation, functioning, general usefulness, and effectiveness of health services for mothers and children.

Description of FY '74 Early Childhood Research Activity

In FY '74 the BCHS Maternal and Child Health and Crippled Children's Research grants program supported studies of health services (64%) designed to improve the health of mothers and children as well as studies of the health status and needs of mothers and children. Note the large proportion of research pertaining to pregnancy and childbirth (45%, Table 37). BCHS research included grants for projects concentrating on maternal and child health, maternity and infant care, comprehensive health care of preschool and school aged children, dental health, crippled children's services, and training of health care personnel. Included in the research focus are delivery systems in 43% of projects, cost/benefits in 20%, and personnel training in 10%.

One priority of the BCHS research program has been to evolve a methodology and strategy for evaluation of health programs. The amount of work in the area of the research process (26%) reflects the projects which are developing such methodology, for use especially with the Maternity and Infant Care projects.

In addition, research continues on the development of methods for the prediction and diagnosis of infant health disorders.

BCHS research is oriented toward a wide range of child health problems. Handicapping conditions received attention in 28% of the projects (Table 39) and physical illnesses such as heart disease and neonatal jaundice were studied in 16% of the work (Table 37). Other health-related issues studied included child abuse, child trauma treatment and nutrition problems.

Figure 9

Percentage of BCHS FY '74 Early Childhood Research Projects (N=58)

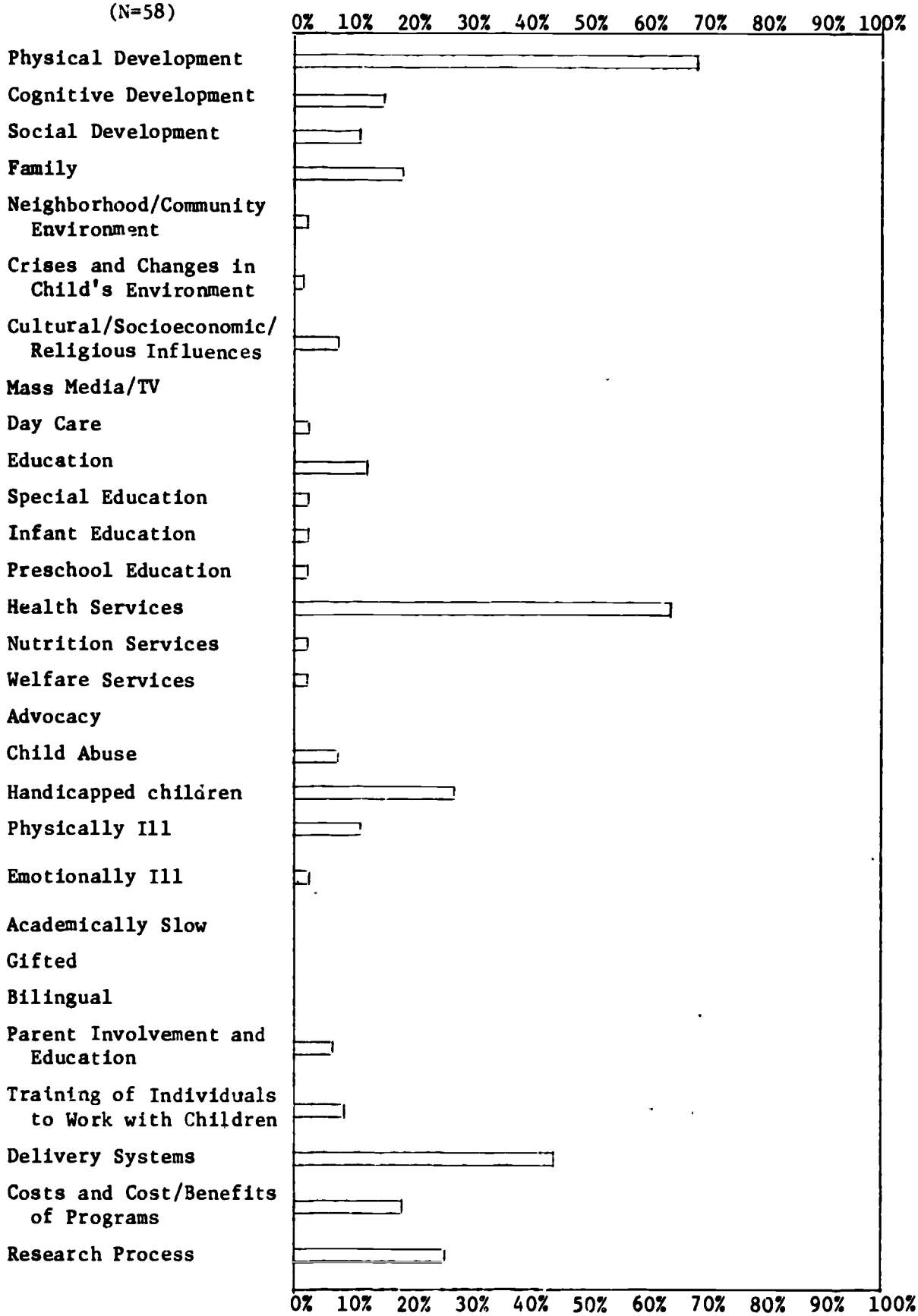

Table 36

Distribution of BCHS FY '74
Early Childhood Projects, by Kind of Research

Kind of Research	%[a]
Basic	13.8
Applied	69.0
Pilot Study	19.0
Development	10.3
Demonstration and/or Replication	1.7
Evaluation	8.6
Planning	1.7
Research Support and Utilization Activities	6.9

Note. Categories are mutually exclusive, except that the applied research category subsumes the three subcategories indented below it (thus only the figures shown for the five general categories should sum to 100%).

[a]Percentage of total BCHS FY '74 early childhood research (58 projects).

Table 37

Breakdown of BCHS FY '74 Early Childhood Research Projects
on Physical and Cognitive Development

Category	%[a]
Total Research on Physical Development	69.0
Pregnancy and Childbirth	44.8
Physical Disease or Illness	15.5
Body Growth	13.8
Sensory Development	3.5
Physical Handicaps	3.5
Motor Development	1.7
Accident/Poisoning	1.7
Total Research on Cognitive Development	15.5
Language	8.6
I.Q.	5.2
Perception/Attention	3.5
Achievement	3.5
Intellectual Handicaps	3.5

Note. Categories are not mutually exclusive; they are ranked according to percentage.

[a]Percentage of total BCHS FY '74 early childhood research (58 projects).

Table 38

Breakdown of BCHS FY '74 Early Childhood Research Projects on the Family

Category	%[a]
Total Research on Family	19.0
Intrafamily Relationships	13.8
Influence of Family on Child	8.6
Family Health	5.2
Child Rearing	3.5
Family Structure	1.7
Ecology of the Home	1.7

Note. Categories are not mutually exclusive; they are ranked according to percentage.

[a]Percentage of total BCHS FY '74 early childhood research (58 projects).

Table 39

Breakdown of BCHS FY '74 Early Childhood Research Projects Relating to Handicapped Children

Category	%[a]
Total Research on Handicapped Children	27.6
Orthopedically Handicapped	8.6
Neurologically Handicapped	6.9
Mentally Retarded	5.2
Visually or Aurally Handicapped	3.5
Learning Disabled	3.5
Speech Handicapped	1.7

Note. Categories are not mutually exclusive; they are ranked according to percentage.

[a]Percentage of total BCHS FY '74 early childhood research (58 projects).

Table 40

Breakdown of BCHS FY '74 Early Childhood Research Projects on Delivery Systems

Category	%[a]
Total Research on Delivery Systems	43.1
Health Delivery	41.4
Instruction Delivery	3.5
Day Care Delivery	1.7

Note. Categories are not mutually exclusive; they are ranked according to percentage.

[a]Percentage of total BCHS FY '74 early childhood research (58 projects).

National Institute of Education, DHEW

- FY '74 Funding of Early Childhood Research: $37.9 million

- Number of Early Childhood Research Projects Active in FY '74: 273

- Mission and/or Functions in Early Childhood Research:

The NIE mandate requests that the agency provide leadership in the conduct and support of scientific inquiry into the education process. The Institute's major program priorities are: (1) to provide essential skills to all individuals, with an immediate emphasis on reading; (2) to improve the productivity of education resources; (3) to understand and improve the relation between education and work; (4) to develop a problem-solving capacity in State and local education systems; and (5) to improve the understanding and means of addressing the diversity of individual and group learning needs and preferences. Responsibilities relating to young children are assumed within the priority areas where appropriate. Additional areas which may direct attention to young children are the Office of Utilization and Resources, which supports the ERIC system, for example; and the Office of Research, which supports analyses of multiple influences on learning in educational settings, research on curriculum and teaching, policy research, and developments in methodology and evaluation design.

Description of FY '74 Early Childhood Research Activity

In FY '74 NIE supported a wide range of research projects designed to improve the quality of education for children.

Research on child development as it relates to the acquisition of skills and competencies is seen in the 36% of the projects in which cognitive development is investigated and the 19% in which socioemotional development is studied. Many of these projects were designed to further the understanding of problem-solving, learning processes, language development, perceptual development, reading, and social attitudes and behavior (Table 42).

Research on educational services (77%) included studies of curricula, instructional techniques (See Table 44), delivery systems, and teaching materials. Issues receiving substantial study included the use of educational vouchers, experimental schools, the educational uses of technological innovations such as television, satellite instruction, and the development of new education models. However, in contrast to the Office of Education

the work supported in these areas is primarily applied research or development rather than demonstration or evaluation.

The target populations for NIE research include children whose special characteristics may present problems in traditional educational settings, such as handicapped children, bilingual children, and disadvantaged children, each of which was targeted in 7% of NIE projects. Studies were directed at determining the nature and extent of the special educational needs of such children and at developing special techniques, curricula, and materials geared to these characteristics.

Another major emphasis of the NIE program has been the development of improved methodology for educational research, which is reflected in the relatively heavy focus on the research process (23%, Figure 10).

Table 41

Distribution of NIE FY '74
Early Childhood Projects, by Kind of Research

Kind of Research	%[a]
Basic	26.0
Applied	52.4
Pilot Study	1.1
Development	30.8
Demonstration and/or replication	6.6
Evaluation	9.2
Planning	4.7
Research Support and Utilization Activities	7.7

Note. Categories are mutually exclusive, except that the applied research category subsumes the three subcategories indented below it (thus only the figures shown for the five general categories should sum to 100%).

[a]Percentage of total NIE FY '74 early childhood research (273 projects).

Figure 10

Percentage of NIE FY '74 Early Childhood Research Projects (N=273)

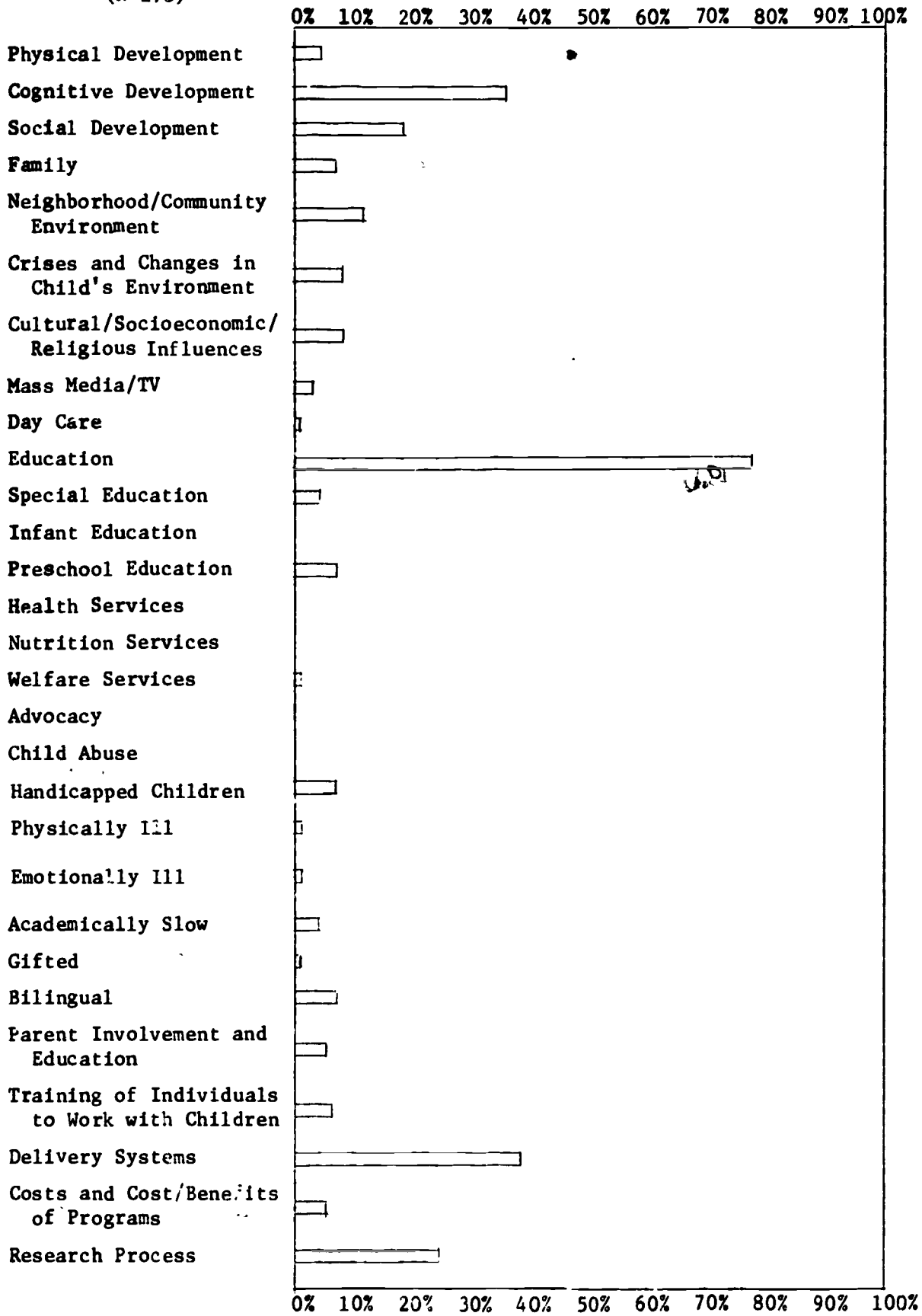

Table 42

Breakdown of NIE FY '74 Early Childhood Research Projects on Cognitive and Socioemotional Development

Category	%[a]
Total Research on Cognitive Development	36.3
Thought Processes	16.9
Language	13.6
Achievement	10.3
Perception/Attention	9.2
Reading	8.4
Intellectual Handicaps	2.9
I.Q.	1.5
Total Research on Socioemotional Development	19.1
Attitudes/Behavior	12.1
Social Development	11.7
Personality	2.6
Emotional Development	1.1

Note. Categories are not mutually exclusive; they are ranked according to percentage.

[a]Percentage of total NIE FY '74 early childhood research (273 projects).

Table 43

Breakdown of NIE FY '74 Early Childhood Research Projects on the Family

Category	%[a]
Total Research on Family	7.3
Intrafamily Relationships	4.8
Family/Society Interface	3.3
Ecology of the Home	2.2
Influence of Family on Child	2.2
Family Structure	0.7
Child Rearing	0.7
Family Health	0.4

Note. Categories are not mutually exclusive; they are ranked according to percentage.

[a]Percentage of total NIE FY '74 early childhood research (273 projects).

Table 44

Breakdown of NIE FY '74 Early Childhood
Research Projects on Instructional Techniques

Category	
Total Research on Instructional Techniques	30.0
Individualized Instruction	9.2
Television Instruction	4.8
Open Schools and Classrooms	3.6
Bilingual Instruction	2.6
Cross-Age Instruction	0.7
Tutorial Instruction	0.7
Team Teaching	0.7

Note. Categories are not mutually exclusive; they are ranked according to percentage.

[a]Percentage of total NIE FY '74 early childhood research (273 projects).

Table 45

Breakdown of NIE FY '74 Early Childhood
Research Projects on Delivery Systems

Category	%[a]
Total Research on Delivery Systems	39.2
Instruction Delivery	31.9
Special Ed. Delivery	1.5

Note. Categories are not mutually exclusive; they are ranked according to percentage.

[a]Percentage of total NIE FY '74 early childhood research (273 projects).

U.S. Office of Education, DHEW

- FY '74 Funding in Early Childhood Research: $139.3 million*
- Number of Early Childhood Research Projects Active in FY '74: 983*
- Mission and/or Function in Early Childhood Research:

The Office of Education's functions are to collect facts and statistics to show the condition and progress of education, to diffuse information to aid in the establishment and maintenance of efficient school systems and otherwise to promote the cause of education. Related functions delegated to OE include the responsibility for Federal financial assistance to education and for special studies and programs. This report will describe six sections of OE which engage in development, demonstration and evaluation activities affecting children: the Bureau of Education for the Handicapped, the Bureau of School Systems, the Office of Indian Education, the Bureau of Occupational and Adult Education, the Office of Planning, Budgeting, and Evaluation, and the Right to Read effort. The activities of these sections are further analyzed on the following pages.

Description of FY '74 Early Childhood Research Activity

In FY '74 the Office of Education was the Federal agency that supported the most work, both in numbers of projects and in size of budget, for children. Only those projects which are administered at the Federal level are included in the analyses shown.

Table 46 presents a breakdown of early childhood projects by kind of research for OE as a whole. The majority of the projects (64.3%) were designed to demonstrate innovative educational models. Most of the remainder are directed at the development of educational models, curricula and materials (14.4%) or the dissemination and utilization of educational research (9.6%).

The individual divisions of OE for which information is presented in this document, follow the same general pattern described for OE as a whole with regard to kind of research, although some minor variations are apparent. The Right to Read activity that was analyzed consisted almost entirely

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*This figure does not reflect the 310 projects funded for $59.4 million by the Division of Bilingual Education in the Bureau of School Systems.

of demonstration projects; the Bureau of Education for the Handicapped and the Bureau of Occupational and Adult Education show a heavier concentration of research in the development category (about 25% for each division); and OPBE, which contrasts with the other divisions the most significantly, supported primarily evaluation projects (82%).

Table 46

Distribution of OE FY '74
Early Childhood Projects, by Kind of Research

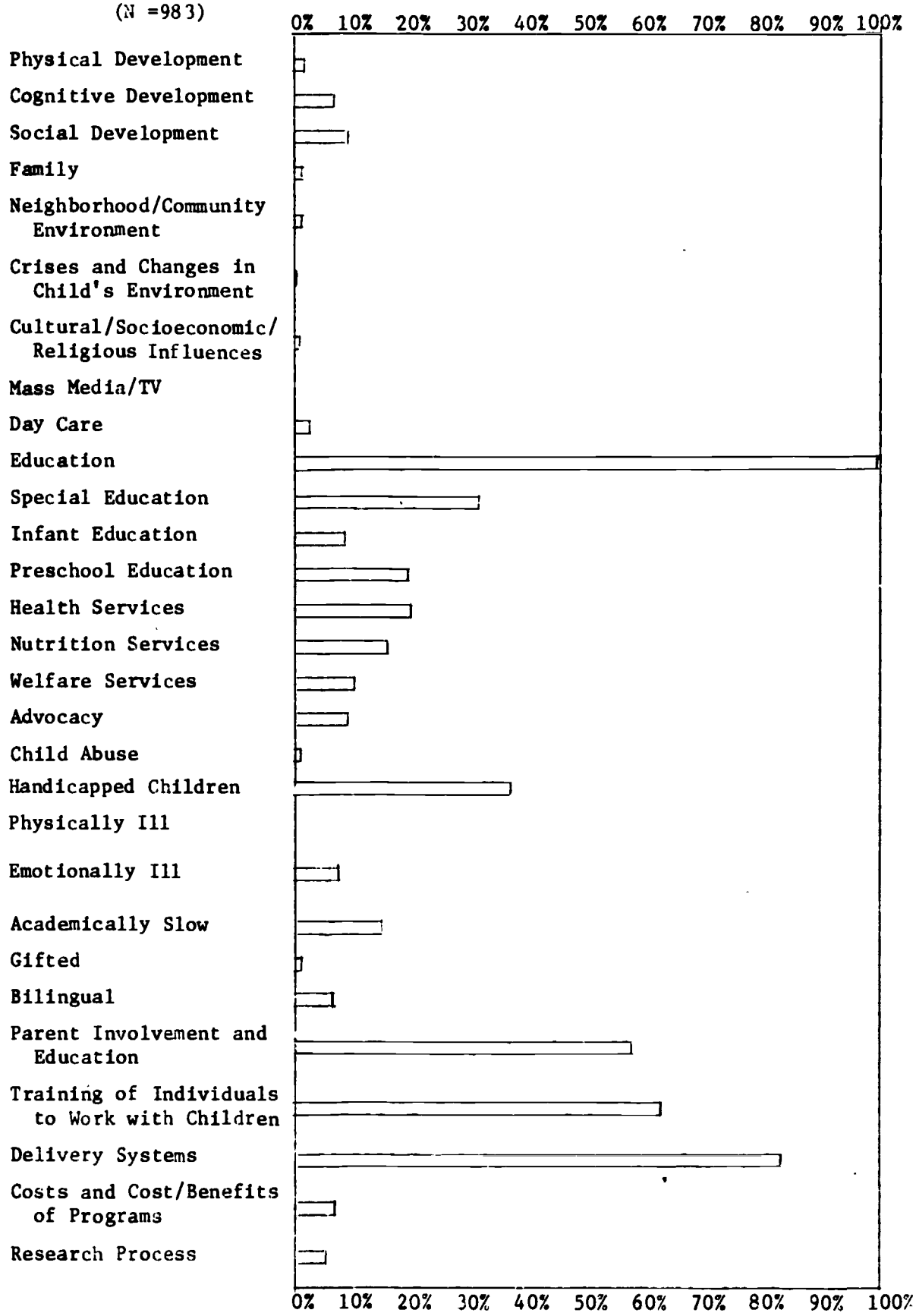
Kind of Research	%[a]
Basic	1.2
Applied	86.4
Pilot Study	0.9
Development	14.4
Demonstration and/or Replication	64.3
Evaluation	2.3
Planning	0.5
Research Support and Utilization Activities	9.6

Note. Categories are mutually exclusive, except that the applied research category subsumes the three subcategories indented below it (thus only the figures shown for the five general categories should sum to 100%).

[a]Percentage of total OE FY '74 early childhood research (983 projects).

Figure 11

Percentage of OE FY '74 Early Childhood Research Projects
(N =983)



Bureau of Education for the Handicapped,
U.S. Office of Education, DHEW

- FY '74 Funding of Early Childhood Research: $34.5 million
- Number of Early Childhood Research Projects Active in FY '74: 300
- Mission and/or Functions in Early Childhood Research:

The mission of the Bureau of Education for the Handicapped is to insure that all handicapped children receive appropriate educational services to enable them to develop their fullest potential and thereby reduce their degree of dependency. BEH goals include appropriate education and career education for handicapped children, day care for most preschool handicapped children, the development of trained personnel, special education, and improved opportunities for the most severely handicapped.

Description of FY '74 Early Childhood Research Activity

Within OE, the BEH projects reflect a concern for the comprehensive needs of handicapped children. Major areas of research include: preschool and early childhood education, specific learning disabilities, demonstration regional resource centers, demonstration deaf/blind centers, and media services. In addition to educational services, projects include work on the delivery of health services, welfare services, advocacy services and day care (see Figure 12). In conjunction with the delivery of services, high priority areas are: parent involvement in the educational process, parent education, and the training of personnel for the education of the handicapped.

The age range served is wider than is the case with most OE projects, reflecting the special needs of handicapped children. In contrast to the other OE divisions, very young children figure prominently in BEH research. For example, 24% of the projects deal with infant education and 47% with preschool education. The projects serve children with a wide range of handicapping conditions, as shown in Table 49, as well as children who are emotionally ill.

Figure #12

Percentage of BEH FY '74 Early Childhood Research Projects (N-300)

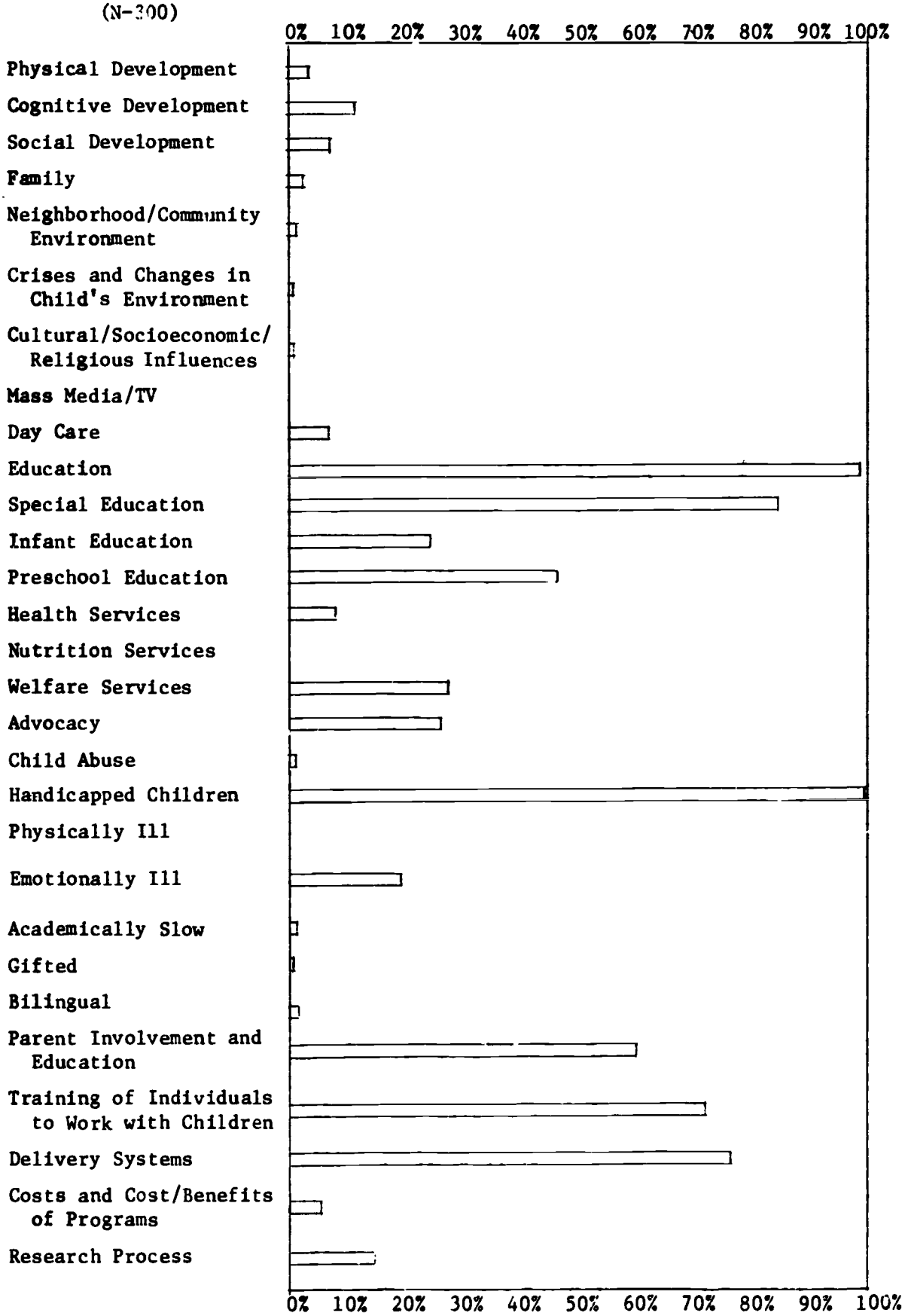


Table 47

Breakdown of BEH FY '74 Early Childhood Research Projects on Cognitive Development

Category	%[a]
Total Research on Cognitive Development	11.0
Language	6.0
Thought Processes	3.3
Achievement	3.3
Intellectual Handicaps	3.0
Perception/Attention	1.0
Reading	1.0

Note. Categories are not mutually exclusive; they are ranked according to percentage.

[a]Percentage of total BEH FY '74 early childhood research (300 projects).

Table 48

Breakdown of BEH FY '74 Early Childhood Research Projects on Instructional Techniques

Category	%[a]
Total Research on Instructional Techniques	52.3
Individualized Instruction	39.0
Tutorial Instruction	3.0
Open Schools and Classrooms	3.0
Bilingual Instruction	2.0
Team Teaching	1.7
Television Instruction	0.7
Cross-Age Instruction	0.3

Note. Categories are not mutually exclusive; they are ranked according to percentage.

[a]Percentage of total BEH FY '74 early childhood research (300 projects).

Table 49

Breakdown of BEH FY '74 Early Childhood
Research Projects Relating to Handicapped Children

Category	%[a]
Total Research on Handicapped Children	100.0
Learning Disabled	33.0
Visually or Aurally Handicapped	28.0
Mentally Retarded	28.0
Speech Handicapped	19.7
Orthopedically Handicapped	12.7
Neurologically Handicapped	4.7

Note. Categories are not mutually exclusive; they are ranked according to percentage.

[a]Percentage of total BEH FY '74 early childhood research (300 projects).

Table 50

Breakdown of BEH FY '74 Early Childhood
Research Projects on Delivery Systems

Category	%[a]
Total Research on Delivery Systems	76.0
Special Ed. Delivery	68.7
Instructional Delivery	66.0
Welfare Delivery	26.0
Health Delivery	9.0
Day Care Delivery	6.3

Note. Categories are not mutually exclusive; they are ranked according to percentage.

[a]Percentage of total BEH FY '74 early childhood research (300 projects).

Office of Indian Education
U.S. Office of Education, DHEW

- FY '74 Funding of Early Childhood Research: $11.3 million

- Number of Early Childhood Research Projects Active in FY '74: 114

- Mission and/or Function in Early Childhood Research:

The mission of the Office of Indian Education is to fund the development and demonstration of early childhood education models designed to meet the special needs of Indian children from age three through third grade. The projects include day care centers with educational components, curriculum development and bilingual and bicultural education programs.

Description of FY '74 Early Childhood Research Activity

The Office of Indian Education is another section of OE that supports projects designed to improve the education of a particular target population. A major emphasis in many of the projects is the delivery of services, including education, health, welfare, special education, and day care services, as shown in Figure 13. A number of innovative instructional techniques are being developed and demonstrated, particularly the use of bilingual instruction (25%), tutorial and individualized instruction (22% and 17% respectively), and open schools and classrooms (11%). Parent involvement in the educational program and training of personnel in the use of bilingual curricula are usually incorporated into the demonstration programs. Efforts are being made to develop and demonstrate models for particular settings and age groups, which include: both the home-based and the school-based preschool models, the preschool through first grade model, the kindergarten through third grade model, transfer models, and models for the delivery of educational services.

Figure 13

Percentage of OIE FY '74 Early Childhood Research Projects (N=114)

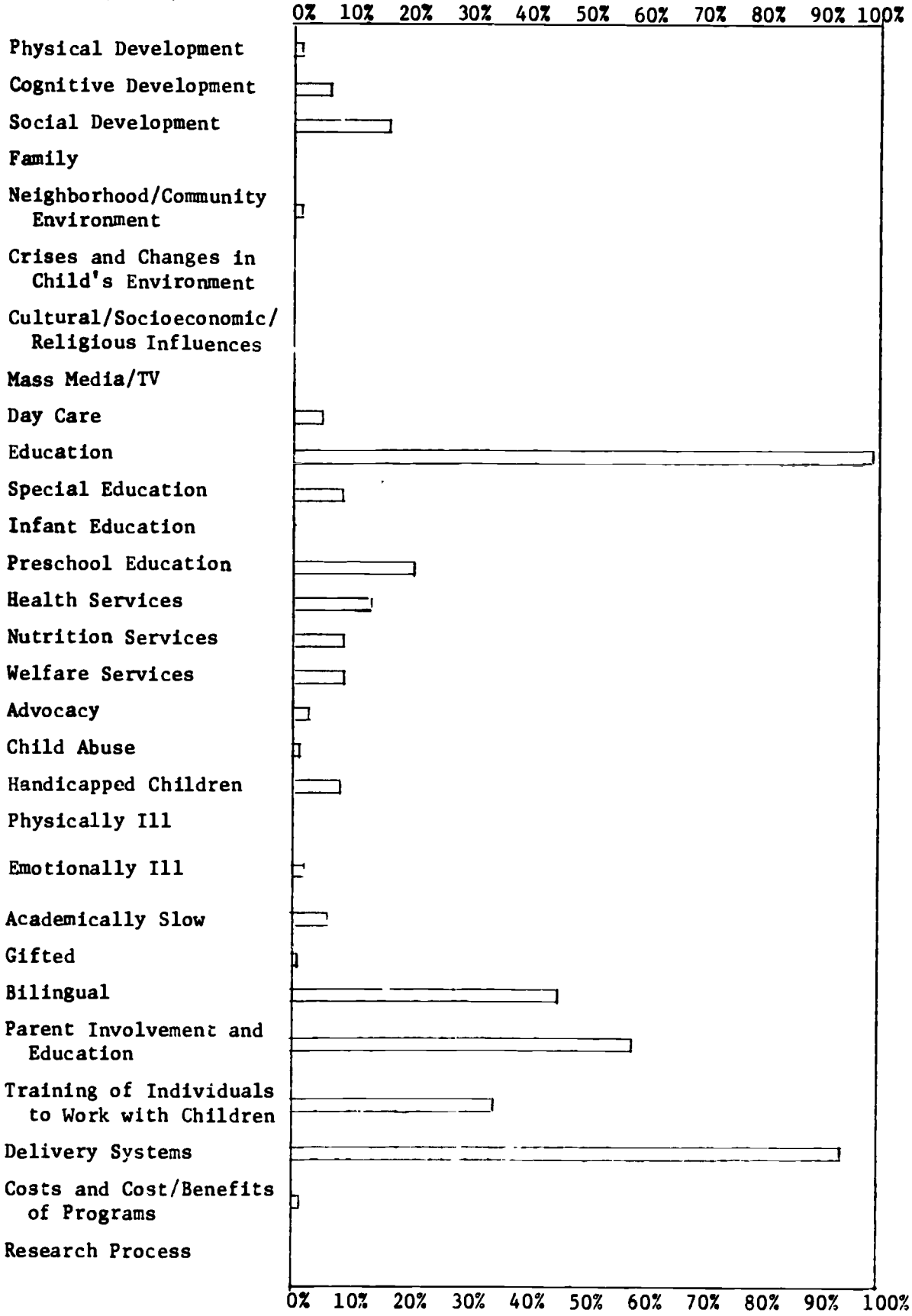


Table 51

Breakdown of OIE FY '74 Early Childhood Research Projects on Socioemotional Development

Category	%[a]
Total Research on Socioemotional Development	16.7
Social Development	15.8
Attitudes/Behavior	4.4

Note. Categories are not mutually exclusive; they are ranked according to percentage.

[a]Percentage of total OIE FY '74 early childhood research (114 projects).

Table 52

Breakdown of OIE FY '74 Early Childhood Research Projects on Instructional Techniques

Category	%[a]
Total Research on Instructional Techniques	66.7
Bilingual Instruction	24.6
Tutorial Instruction	21.9
Individualized Instruction	16.7
Open Schools and Classrooms	10.5
Cross-Age Instruction	3.5
Team Teaching	0.9

Note. Categories are not mutually exclusive; they are ranked according to percentage.

[a]Percentage of total OIE FY '74 early childhood research (114 projects).

Table 53

Breakdown of OIE FY '74 Early Childhood Research Projects on Delivery Systsms

Category	%[a]
Total Research on Delivery Systems	93.9
Instruction Delivery	86.8
Health Delivery	11.4
Welfare Delivery	7.9
Special Ed. Delivery	6.1
Day Care Delivery	4.4

Note. Categories are not mutually exclusive; they are ranked according to percentage.

[a]Percentage of total OIE FY '74 early childhood research (114 projects).

Right to Read Effort
U.S. Office of Education, DHEW

- FY '74 Funding of Early Childhood Research: $7.4 million
- Number of Early Childhood Research Projects Active in FY '74: 96
- Mission and/or Functions in Early Childhood Research:

The National Right to Read Effort is a national attempt to focus on the reading literacy problems in this country. The goal of this effort is to prevent functional illiteracy and to provide corrective remediation for those who are presently experiencing the results of being functionally illiterate. The Right to Read Effort supports innovative demonstration projects designed to promote effective state and local reading programs.

Description of FY '74 Early Childhood Research Activity

The Right to Read Effort supports projects designed to ameliorate a specific educational problem--illiteracy. The projects are primarily developed and demonstrated for populations shown to have a higher than average illiteracy rate. The models being demonstrated include the school-based model designed to increase the average reading level of school students enrolled in these programs and the Special Reading Projects designed to improve the reading instruction of minority group students. Financial, technological, and human resources are provided to State education agencies to assist in the development of exemplary State-wide programs. As in other divisions of OE, in these models high priority is placed on programs which utilize parent involvement and education and the training for educational personnel in special skills for reading instruction. The distribution of research on specific instructional methods is shown in Table 54.

Figure 14

Percentage of Right to Read FY '74 Early Childhood Research Projects (N=96)

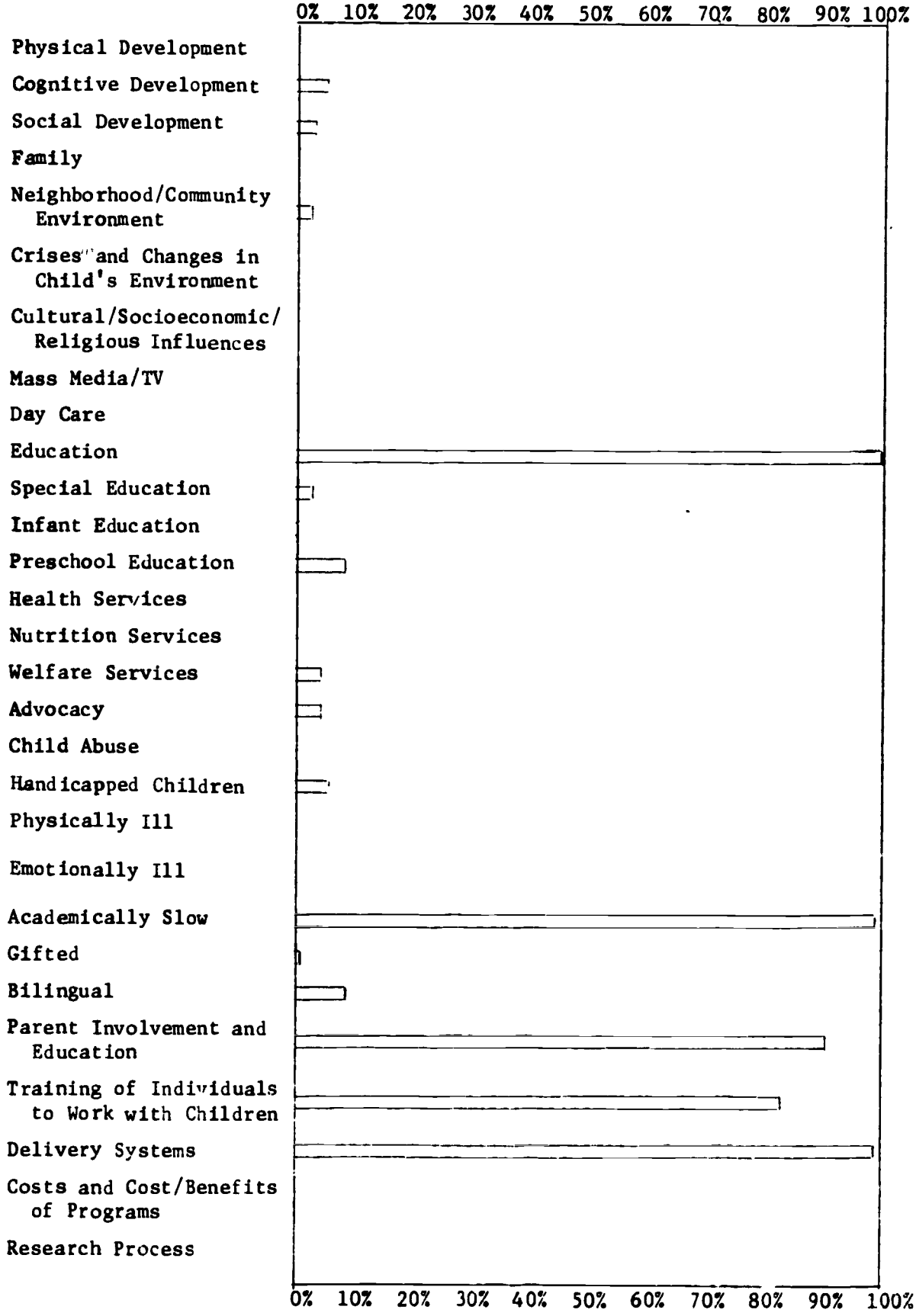


Table 54

Breakdown of Right to Read FY '74 Early Childhood Research Projects on Instructional Techniques

Category	%[a]
Total Research on Instructional Techniques	94.8
Individualized Instruction	86.5
Tutorial Instruction	51.0
Cross-Age Instruction	27.1
Team Teaching	14.6
Bilingual Instruction	12.5
Open Schools and Classrooms	11.5
Television Instruction	9.4

Note. Categories are not mutually exclusive; they are ranked according to percentage.

[a]Percentage of total Right to Read FY '74 early childhood research (96 projects).

Table 55

Breakdown of Right to Read FY '74 Early Childhood Research Projects on Delivery Systems

Category	%[a]
Total Research on Delivery Systems	99.0
Instruction Delivery	97.9
Welfare Delivery	3.1
Special Ed. Delivery	2.1

Note. Categories are not mutually exclusive; they are ranked according to percentage.

[a]Percentage of total Right to Read FY '74 early childhood research (96 projects).

Bureau of School Systems
U.S. Office of Education, DHEW

- FY '74 Funding of Early Childhood Research: $76.5 million*
- Number of Early Childhood Research Projects Active in FY '74: 390*
- Mission and/or Functions in Early Childhood Research:

The Bureau of School Systems formulates policy for, directs, and coordinates the activities and elements of the Office of Education which deal with preschool, elementary and secondary education. Five divisions within the Bureau conduct development or demonstration activities pertinent to the Bureau's mission: (1) The Division of Equal Education Opportunity Program Operations funds special projects that are centrally administered Emergency School Aid (ESA) programs, which include demonstration desegregation assistance projects and educational television projects. (2) The Division of Supplementary Centers and Services administers two kinds of innovative demonstration projects: those which provide solutions to state and local educational problems under the State Plan Program and those which provide solutions to problems common to all or several states under the Special Program and Project authority. (3) The Division of Technology and Environmental Education supports the development, demonstration, and dissemination of multidisciplinary, problem-oriented environmental education programs and the effective employment of technology for improvement of education instruction and delivery of programs and services. (4) The Division of Bilingual Education supports the development and demonstration of educational programs, curriculum materials and teacher training programs designed to meet the needs of children who come from environments where the dominant language is not English and who have limited English-speaking ability. (5) The Division of Follow Through supports demonstration projects which provide comprehensive services--education, nutrition, health care, and social and psychological services--designed to sustain and supplement in the primary grades the gains made by low-income children who participated in a Head Start or comparable preschool program.

Description of FY '74 Early Childhood Research Projects

The five divisions of BSS described here support primarily development, demonstration, and utilization programs for children, as delineated in the mission statement. Three of the divisions (Division of

*This figure does not reflect the 310 projects funded for $59.4 million by the Division of Bilingual Education. At the time of writing, information was not available on these projects.

Follow Through, Division of Bilingual Education and the Division of Equal Educational Opportunity) address the educational problems of particular target groups known to be educationally disadvantaged: minority group students, students for whom English is a second language, and economically disadvantaged children who have previously been exposed to a preschool enrichment program. New educational curricula, techniques, and models are major concerns of the other two divisions (the Division of Technology and Environmental Education, and the Division of Supplementary Centers and Services), which concentrate on environmental education projects, the uses of technology in education, and the utilization and installation of innovative educational models.

The substantial amount of activity in the areas of health services and nutrition services shown in Figure 15 reflects projects supported by Follow Through. As indicated in Table 56, attitudes and social development of children are also focused on by BSS's education projects.

Figure 15

Percentage of BSS FY '74 Early Childhood Research Projects (N=390)

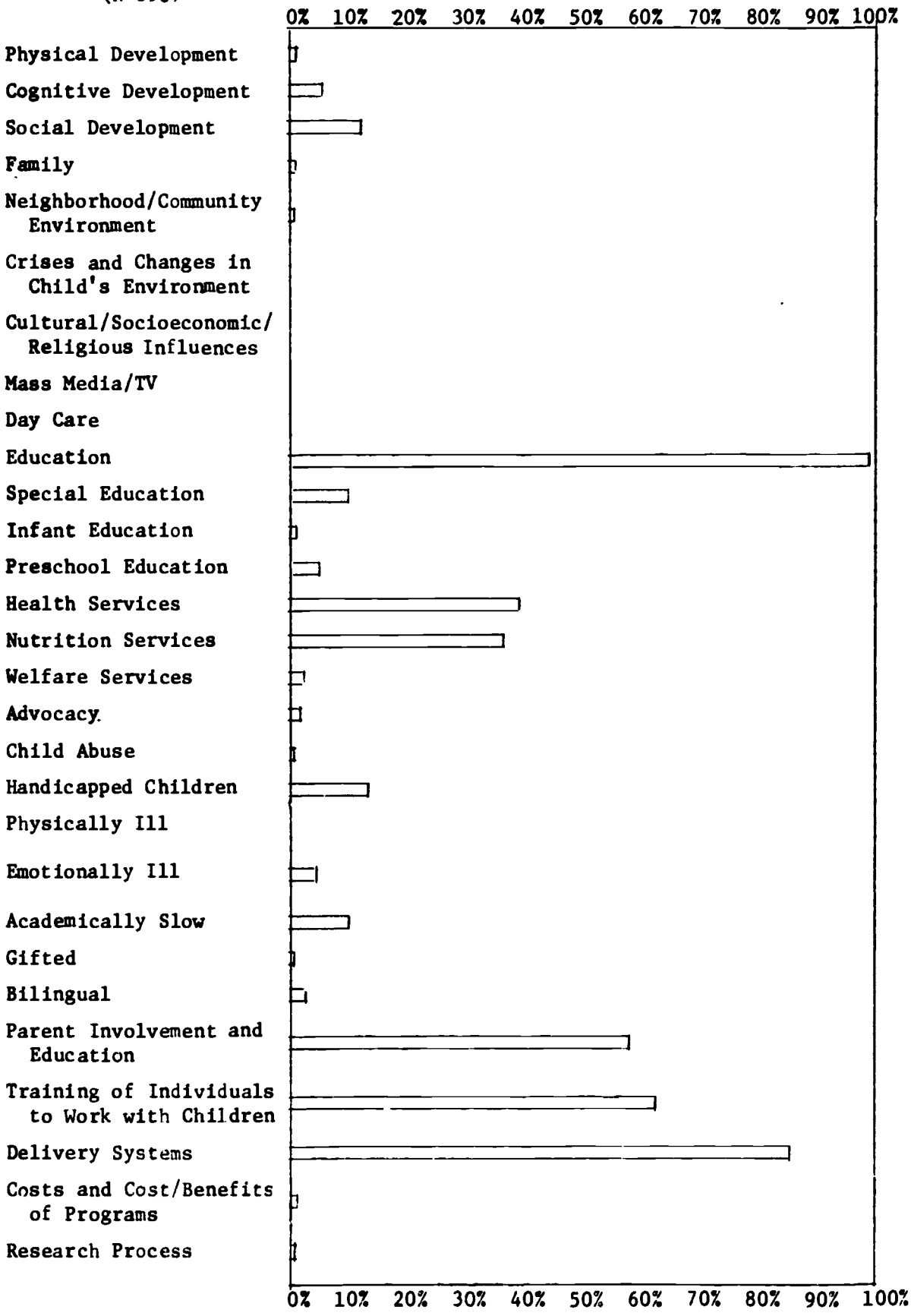


Table 56

Breakdown of BSS FY '74 Early Childhood Research Projects on Socioemotional Development

Category	%[a]
Total Research on Socioemotional Development	12.3
Social Development	9.0
Attitudes/Behavior	9.4
Emotional Development	0.5
Personality	0.5

Note. Categories are not mutually exclusive; they are ranked according to percentage.

[a]Percentage of total BSS FY '74 early childhood research (390 projects).

Table 57

Breakdown of BSS FY '74 Early Childhood Research Projects on Instructional Techniques

Category	%[a]
Total Research on Instructional Techniques	67.7
Individualized Instruction	58.0
Open Schools and Classrooms	39.7
Television Instruction	3.3
Bilingual Instruction	1.8
Tutorial Instruction	1.0
Cross-Age Instruction	0.8
Team Teaching	0.8

Note. Categories are not mutually exclusive; they are ranked according to percentage.

[a]Percentage of total BSS FY '74 early childhood research (390 projects).

Table 58

Breakdown of BSS FY '74 Early Childhood Research Projects on Delivery Systems

Category	%[a]
Total Research on Delivery Systems	85.4
Instruction Delivery	65.4
Health Delivery	38.5
Special Ed. Delivery	7.7
Welfare Delivery	1.3

Note. Categories are not mutually exclusive; they are ranked according to percentage.

[a]Percentage of total BSS FY '74 early childhood research (390 projects).

Bureau of Occupational and Adult Education,
United States Office of Education, DHEW

- FY '74 Funding of Early Childhood Research: $5.3 million
- Number of Early Childhood Research Projects Active in FY '74: 66
- Mission and/or Functions in Early Childhood Research:

Goals of the BOAE Center for Adult, Vocational, Technical, and Manpower Education include the improvement and expansion of vocational educational guidance, counseling, placement, and follow-up systems, the improvement and expansion of cooperative education, and increasing the integration of handicapped students into vocational education programs. The research and development program in vocational education begins at the elementary school level and includes children nine and younger as well as adolescents.

Description of FY '74 Early Childhood Research Activity

While the primary target population for the activities of the Bureau of Occupational and Adult Education consists of adolescents and adults, the Bureau supports the development and demonstration of career education directed towards children in elementary schools. Research areas include curricula studies, e.g., the development of individualized and performance oriented curricula, the identification of emerging occupations and the resulting curriculum and manpower needs, and the identification of a common core of basic skills for occupational clusters. In addition, the special vocational education needs of disadvantaged, handicapped and minority populations are studied. Considerable attention is given to the costs and benefits of various vocational educational models as seen by the 65% of the projects in this area. The instructional techniques studied are shown in Table 59.

Figure 16

Percentage of BOAE FY '74 Early Childhood Research Projects (N=66)

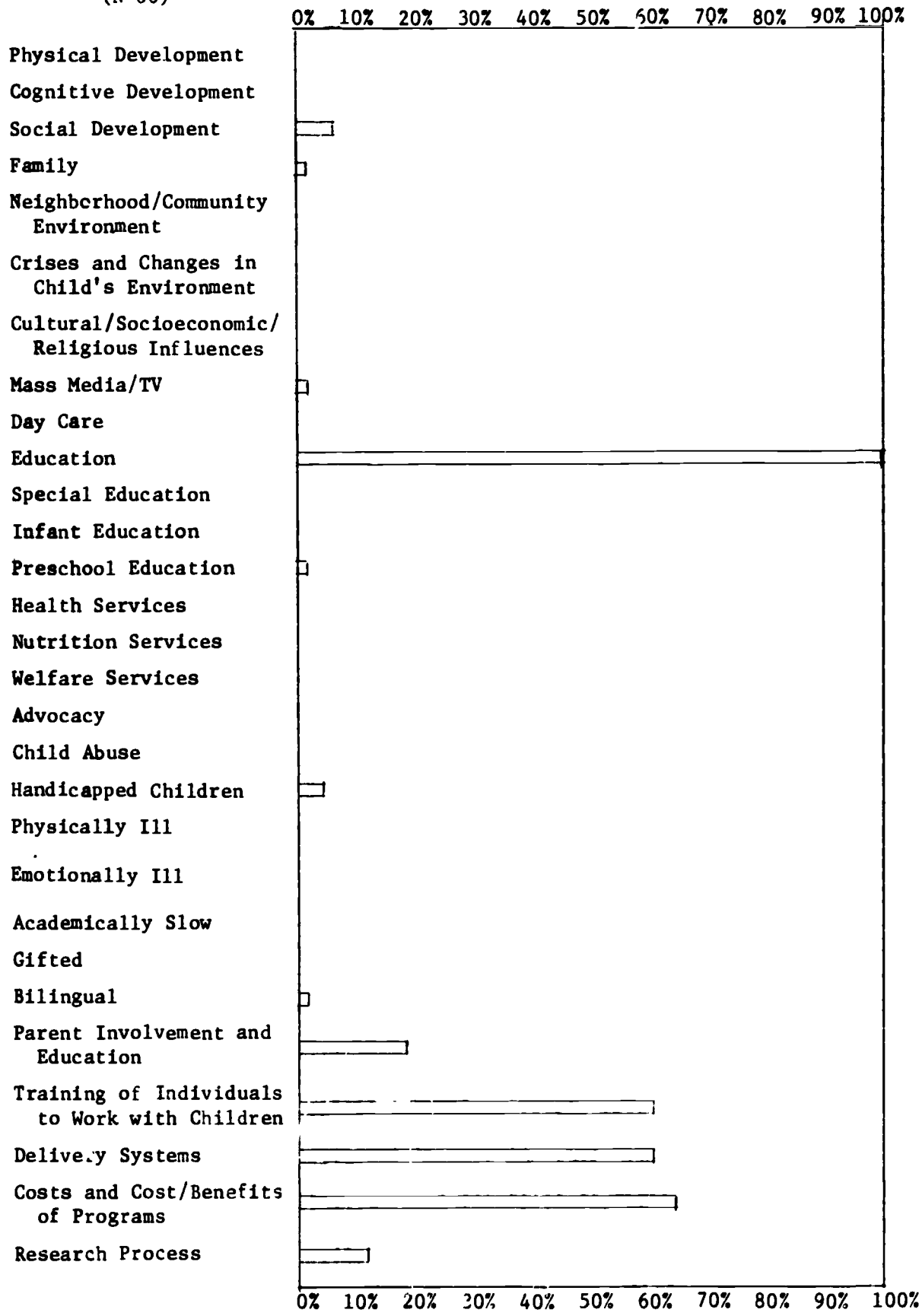


Table 59

Breakdown of BOAE FY '74 Early Childhood Research Projects on Instructional Techniques

Category	%[a]
Total Research on Instructional Techniques	33.3
Individualized Instruction	7.6
Open Schools and Classrooms	3.0
Bilingual Instruction	1.5
Television Instruction	1.5
Team Teaching	1.5

Note. Categories are not mutually exclusive; they are ranked according to percentage.

[a]Percentage of total BOAE FY '74 early childhood research (66 projects).

Office of Planning, Budgeting, and Evaluation
U.S. Office of Education, DHEW

- FY '74 Funding of Early Childhood Research: $4.3 million
- Number of Early Childhood Research Projects Active in FY '74: 17
- Mission and/or Functions in Early Childhood Research:

This office has primary responsibility for the planning, budgeting and evaluation of overall Office of Education programs and provides guidance and coordination for Deputyships in these activities and in establishing objectives. Primary emphasis is placed on conducting national impact evaluations of major Office of Education programs. OPBE prepares analytical studies necessary for the planning of educational policies and specifies the kinds of information to be collected for the evaluation of Federal programs in elementary, secondary, post-secondary, vocational,and special education. OPBE also prepares program memoranda, special studies, and analyses supporting the OE five-year program and financial plan.

Description of FY '74 Early Childhood Research Activity

The Office of Planning, Budgeting, and Evaluation projects are primarily evaluations of the national impact of major OE programs. Many aspects of the OE programs are studied, e.g., the effect of programs on the child's cognitive and social development. (See Table 60.) In addition, costs and efficiency,and delivery systems are investigated. Programs or areas given emphasis in FY '74 included special education for the handicapped, vocational education, and the impact of the Emergency School Aid Act programs.

A second major research concern pertains to educational policy questions. Primary objectives are to subject issues to analysis, collect relevant data, and shed light on alternatives to be considered in formulating future legislation or programs. OPBE also places emphasis on research on evaluation methodology which can be seen in the 30% shown for the research process in Figure 17. Several projects are devoted to studying the evaluation of specific OE programs, such as Right to Read Community Based projects or the Follow Through program.

Figure 17

Percentage of OPBE FY '74 Early Childhood Research Projects (N=17)

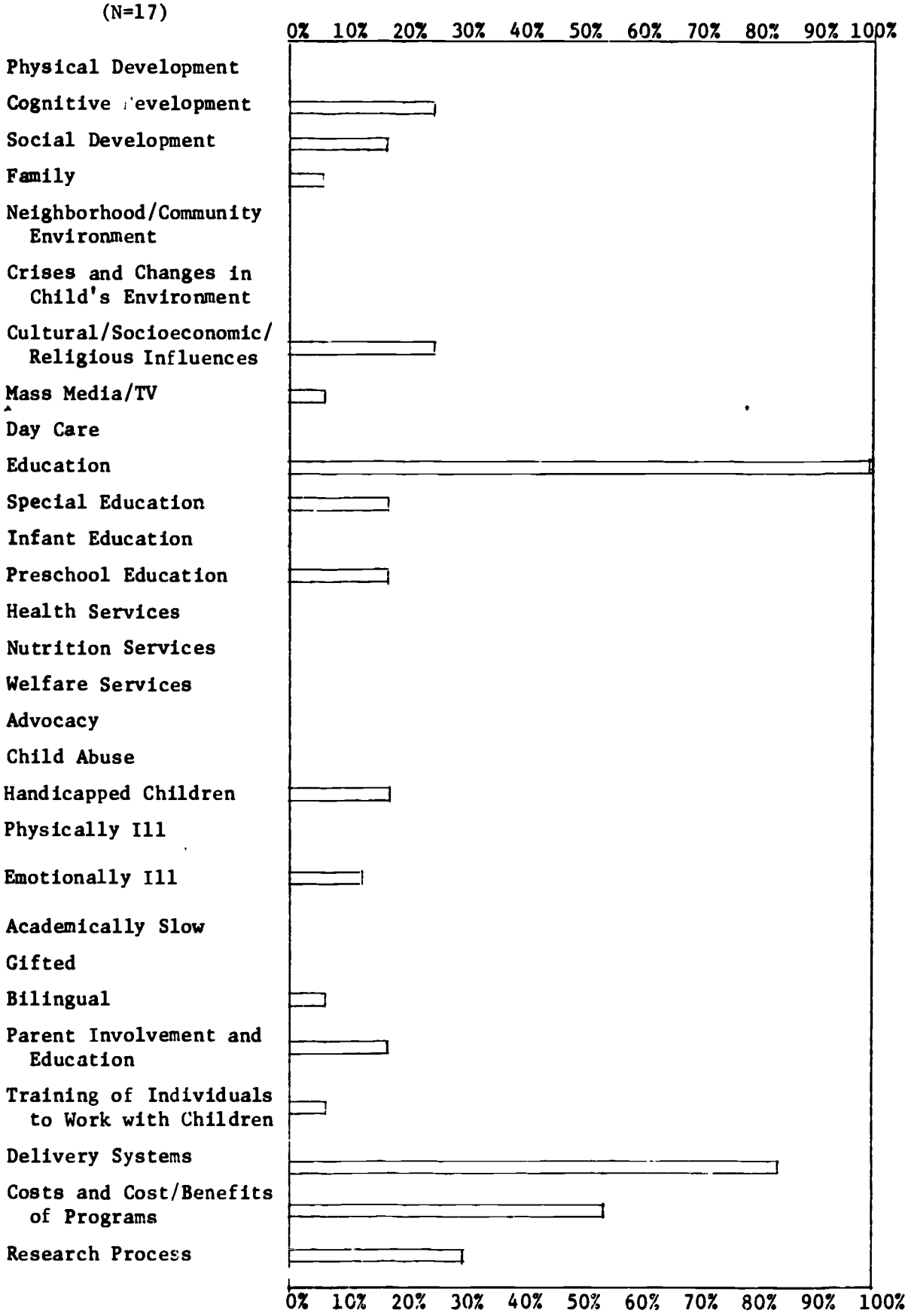


Table 60

Breakdown of OPBE FY '74 Early Childhood Research Projects on Cognitive and Socioemotional Development

Category	%[a]
Total Research on Cognitive Development	23.5
Achievement	17.6
Thought Processes	11.8
Total Research on Socioemotional Development	17.7
Social Development	11.8
Attitudes/Behavior	5.9

Note. Categories are not mutually exclusive; they are ranked according to percentage.

[a]Percentage of total OPBE FY '74 early childhood research (17 projects).

Table 61

Breakdown of OPBE FY '74 Early Childhood Research Projects on Instructional Techniques

Category	%[a]
Total Research on Instructional Techniques	41.2
Bilingual Instruction	5.9
Television Instruction	5.9

Note. Categories are not mutually exclusive; they are ranked according to percentage.

[a]Percentage of total OPBE FY '74 early childhood research (17 projects).

Table 62

Breakdown of OPBE FY '74 Early Childhood Research Projects on Delivery Systems

Category	%[a]
Total Research on Delivery Systems	82.4
Instruction Delivery	82.4
Special Ed. Delivery	11.8

Note. Categories are not mutually exclusive; they are ranked according to percentage.

[a]Percentage of total OPBE FY '74 early childhood research (17 projects).

U.S. Department of Agriculture

- FY '74 Funding of Early Childhood Research: $ .25 million*
- Number of Early Childhood Research Projects Active in FY '74: 30
- Mission and/or Functions in Early Childhood Research:

The USDA supports research in the Land Grant Institutions which is designed to develop human resource potential. The focus is on the family or household as a functioning unit, and the child as a force in the unit. The work includes studies of issues related to childhood such as nutritional status, early childhood education, the effects of the family, social and physical environment, and cognitive and physical developmental processes. In addition, the USDA Extension Service supports educational programming for children in a variety of areas, e.g., family life, day care, and home economics.

Description of FY '74 Early Childhood Research Activity

In FY '74 USDA research on children reflected the agency's concern for the child within the family setting. Figure 18 shows that a large portion of the projects (40%) touched on some aspect of the family. (See Table 65 for a breakdown of family-related research). Also central to many of the studies were environmental factors such as neighborhood and community setting (in 17% of the projects) and cultural, socioeconomic, and religious factors (in 37% of the work). Emphasis has been placed on studying the effects of rural isolation and poverty on the child and the family. A significant number of projects also were undertaken on services for children in rural families, such as day care (10%), preschool programs (13%), and health care (10%).

All aspects of child development received attention--physical, cognitive, and social (see Table 64). As noted at the bottom of Figure 18, while no research projects on nutrition services are shown, all of the research related to physical development (47%) concerns nutritional needs, and dietary practices and their relationship to child growth. The social development of the child and his attitudes and behavior were included in 16.7% of the projects.

USDA supports substantial work on the research process itself in

*Funding information was available for only 21 of the 30 projects.

conjunction with its collaborative research program. Primary emphasis in these programs is on planning and coordinating research designs and instrumentation, particularly with regard to studies on nutrition and nutrition education. Also emphasized are the development and refinement of specific instruments to measure behavioral variables (such as social acceptance or life adjustment).

Table 63

Distribution of USDA FY '74
Early Childhood Projects, by Kind of Research

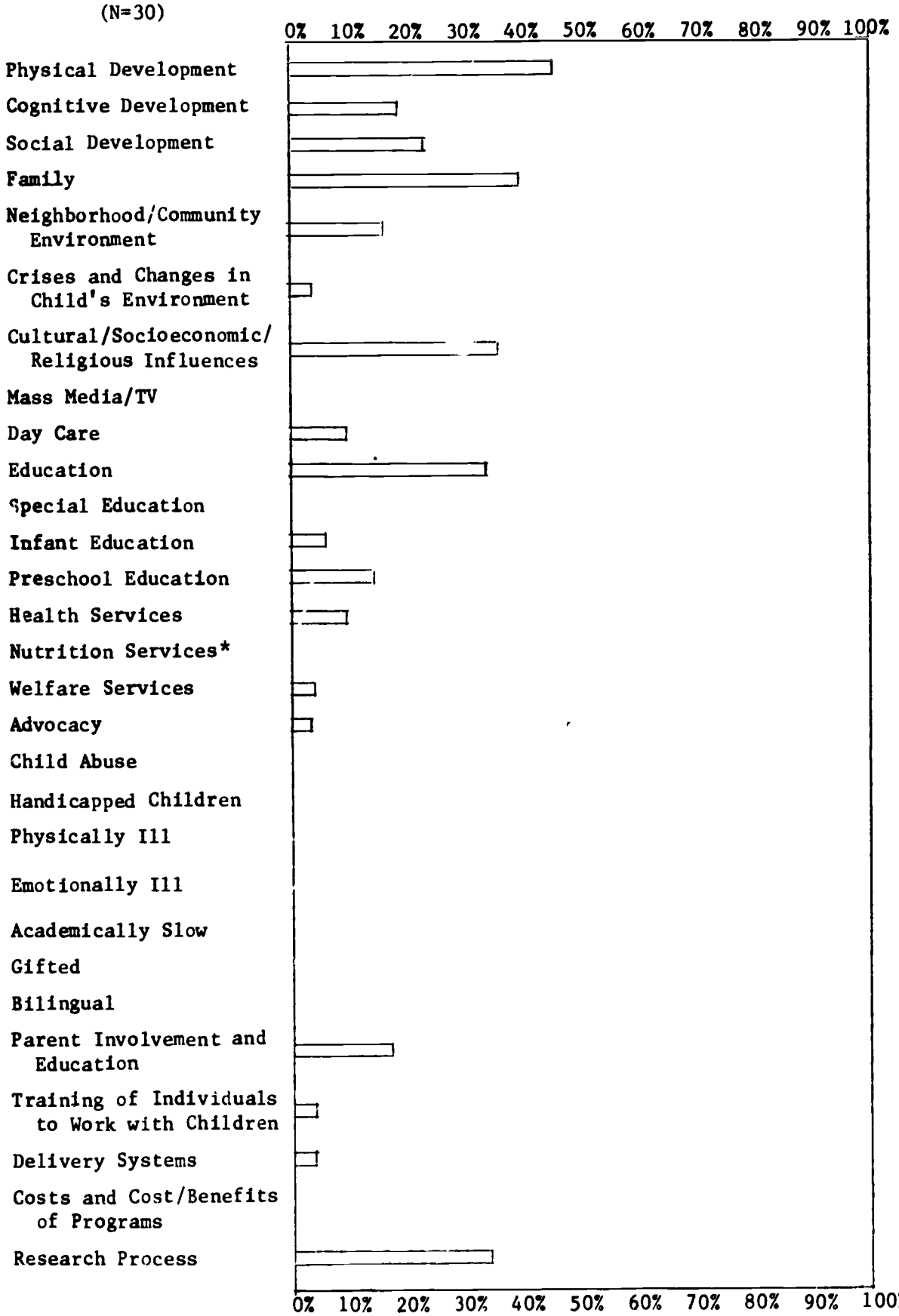
Kind of Research	%[a]
Basic	26.7
Applied	73.3
Pilot Study	0.0
Development	10.0
Demonstration and/or replication	0.0
Evaluation	0.0
Planning	0.0
Research Support and Utilization Activities	0.0

Note. Categories are mutually exclusive, except that the applied research category subsumes the three subcategories indented below it (thus only the figures shown for the five general categories should sum to 100%).

[a]Percentage of total USDA FY '74 early childhood research (30 projects).

Figure 18

Percentage of USDA FY '74 Early Childhood Research Projects (N=30)



*While no USDA projects on nutrition services are included in the Panel's information system, a large portion (10.7%) of the USDA projects involve research on nutritional needs of children

Table 64

Breakdown of USDA FY '74 Early Childhood Research Projects on Physical, Cognitive and Socioemotional Development

Category	%[a]
Total Research on Physical Development	46.7
Body Growth	26.7
Motor Development	3.3
Pregnancy and Childbirth	3.3
Total Research on Cognitive Development	20.0
Thought Processes	10.0
Language	6.7
Achievement	6.7
Perception/Attention	3.3
Total Research on Socioemotional Development	23.3
Social Development	16.7
Attitudes/Behavior	16.7

Note. Categories are not mutually exclusive; they are ranked according to percentage.

[a]Percentage of total USDA FY '74 early childhood research (30 projects).

Table 65

Breakdown of USDA FY '74 Early Childhood Research Projects on the Family

Category	%[a]
Total Research on Family	40.0
Intrafamily Relationships	13.3
Influence of Family on Child	6.7
Ecology of the Home	6.7
Family Structure	3.3
Child Rearing	3.3
Family/Society Interface	3.3

Note. Categories are not mutually exclusive; they are ranked according to percentage.

[a]Percentage of total USDA FY '74 early childhood research (30 projects).

CHAPTER V

AGENCY PLANS FOR EARLY CHILDHOOD RESEARCH, FY '75

The FY '74 research activities funded by the agencies that comprise the Interagency Panel on Early Childhood Research and Development were described and analyzed in the preceding chapter. The research efforts and objectives planned by the member agencies for FY '75 are presented in this chapter. Information about plans was derived from documents and materials provided by individuals within the various agencies. At the time this report was being prepared, the objectives and priorities established by many of the agencies were tentative or incomplete, and had not received final approval. The descriptions that follow, then, do not necessarily represent official or final statements of agency plans.

Office of Child Development

The plans for the Office of Child Development for FY '75 consist of research priorities identified in three documents, the Tentative Research and Evaluation Plan for FY '75, the Long Range Plan for OCD for FY '75 - FY '80, and a Statement on Child Development and Family Research and Development.

The Tentative Research and Evaluation Plan for FY '75 identifies a number of major thrusts for FY '75: (1) a larger role for the evaluation component of the OCD research, development, and evaluation activities in order to increase the assessment of the effectiveness of programs and services to target groups (e.g., program elements, delivery systems, and services already in place); (2) the development of an extensive and comprehensive program for child abuse and neglect which stems from the need to implement the Child Development and Abuse Prevention Act (the outstanding feature of this thrust being a total approach to the identification and treatment of conditions of child abuse and neglect as well as the development and testing of program models, the generating of new knowledge through epidemiological studies, research and demonstration, and the provision of technical assistance and training models to public and private agencies);(3) concentration

on information needs relating to target populations, services for them, and special problems of these groups in order to organize from existing information a sound knowledge base upon which future policy decisions can be made; and (4) an increase in dissemination and utilization efforts.

Continuing efforts related to agency goals are planned in the following areas which were identified in the Long Range Plan for OCD for FY '75 - FY '80: (1) improvement in management and quality of existing services, particularly Head Start; (2) increased and improved alternative programs for wider selection by consumers, especially Parent Child Development Centers and Experimental projects; (3) better services to children in institutions as well as the improvement of the process of deinstitutionalization; (4) improved services to children needing foster care or adoption, especially children with special needs; (5) up-graded services for day care; (6) increased number of qualified child care staff; and (7) increased intradepartmental coordination.

In FY '74 OCD issued a priority statement that identified research priorities in the area of child development and family research and development. Areas identified include studies of family styles, coping abilities, and interaction with other institutions as well as certain issues related to the impact of television. A six year commitment to this area has been made and a progression of projects is planned. In FY '75, the focus will be on studying select target groups with regard to varying family styles.

The Social and Rehabilitation Service

The research plans of the Social and Rehabilitation Service reflect its basic goal of helping America's vulnerable and handicapped people overcome dependency, alienation and deprivation. In line with this mission, special emphasis is placed on the development of programs and services in which self care for individuals and families supercedes institutional care.

The Office of Research and Demonstrations in SRS is planning activity in the following areas:

1. Early and periodic screening, diagnosis and follow-up of children, to provide comprehensive health screening of children eligible for Medicaid (to age 21).

2. Day care.
   a. To evaluate effect of day care on participation in the labor force by mothers.
   b. To investigate factors that influence the demand for and use of day care.
   c. To study alternative means of day care.
3. Foster care.
   a. To investigate alternatives to foster care (e.g., expanded adoption options).
   b. To study methods of preventing institutionalization of children and separation from the family.
4. Child abuse.
   a. To determine early warning indicators and to develop case finding techniques.
   b. To investigate the cost-effectiveness of the delivery of protective services.

The Rehabilitation Services Administration continues to support a regional system of 22 research centers at universities and medical schools. Emphasis is placed on basic medical research and the development of treatment and rehabilitation services for a wide range of disabled, handicapped and disadvantaged people.

The National Institute of Child Health and Human Development

The program of the National Institute of Child Health and Human Development represents an effort to study all of the factors associated with human development and health status at all stages of the life span from conception through old age. The purpose is to improve the quality of life, to reduce morbidity and mortality and to increase man's ability to cope with his environment. All aspects of human development (physical, psychological, and social) and their relationships to health are involved.

NICHD attempts to achieve program balance by developing long and short range plans at all levels within the Institute. The priorities described here represent the long-range plans developed for fiscal years 1975 through 1980. The three major areas of research activity relevant to early childhood

are perinatal biology and infant mortality, growth and development, and mental retardation.

The Growth and Development Program, one of the three extramural Branches of the recently established Center for Mothers and Children of NICHD is concerned with the important period of human growth and development from birth through adolescence to maturity. Through support of fundamental research its goal is to broaden our understanding of the complex interplay of factors that determine and affect the emergence and development of the biological, intellectual, and social characteristics of the individual.

The specific areas of research interest encompassed by the Branch are as follows:

1. Molecular and cellular aspects of development.
2. Physiological and metabolic studies of growth.
3. Nutrition.
4. Physical growth.
5. Immunologic mechanisms.
6. Pharmacological studies in development.
7. Developmental behavioral biology.
8. Learning and cognitive development.
9. Human communication research.
10. Personality and social development.

In the Perinatal Biology and Infant Mortality Branch, research will focus on low birth weight and on the Sudden Infant Death Syndrome. Investigations of nutritional, infectious, biochemical and pathophysiological maternal states which produce low birth weight will be pursued, as will studies of the etiological factors associated with the type of low birth weight infant produced. Efforts will be made to define normal placental function as a function of gestational age, and to elucidate nutritional requirements for fetal well being. Further information about the onset and control of labor will be sought. Multifaceted and interdisciplinary approaches will be used to unravel the causes of the Sudden Infant Death Syndrome.

In the Mental Retardation Branch emphasis will be placed or genetic and cytogentic research--specifically in the areas of the role of enzymes in genetic disease and the problems of intrauterine diagnosis of developmental deviation. More research is needed to identify the disorders that can be

diagnosed prenatally. New techniques can and should be developed and current procedures perfected to allow earlier detection in utero of conditions associated with developmental deviation. Approaches to intrauterine diagnosis not dependent on cytogenetic techniques must also go forward.

Another major focus of attention will be early diagnosis and intervention. For those infants who survive premature birth, the likelihood of subsequent developmental deficits is relatively high. Studies of high risk neonates and infants are needed which will permit the prediction of performance after two years of age. These studies will place an emphasis on behavioral as well as neurological and physiological parameters. Successful diagnostic studies can suggest possible approaches to early intervention.

Emphasis will also be on the research definition of the "effective environment". Studies are under way to define the elements of the environment that actually elicit behavior from the infant and to determine the kind of experience that may be a requirement for the development of intelligent behavior.

The National Institute of Neurological Diseases and Stroke

The National Institute of Neurological Diseases and Stroke has identified the following high priority research issues relevant to early childhood:

1. Childhood convulsive disorders.
   a. Experimental models of the genetic epilepsies; electrophysiology, biochemistry, drug studies.
   b. Studies on the etiology of human convulsive disorders.
   c. Drug trials, experimental and clinical.
   d. Febrile seizures: risks and benefits of therapy (see 11b, below).
2. Hearing disorders in children. This area includes procedures for early identification of congenital deafness, detection and treatment of disorders such as serous otitis media, and prevention of permanent hearing-impairment as a result of disease or of noise exposure.

3. Aids for the communicatively handicapped. Research efforts to develop improved hearing aids, etc., for children are accompanied by studies to assess the costs and benefits of prototype aids.

4. Delayed or disordered language development. The goal is improved prevention and treatment for children whose language disorders may be neurologically based and who are without marked mental retardation, neuromuscular dysfunction, or grossly impaired reception of visual or auditory stimuli.

5. Neurological basis of learning and behavior disorders.
   a. Plasticity studies, including material relevant to critical periods and deprivation syndromes.
   b. Neurological aspects of "minimal cerebral dysfunction" and learning disorders.

6. Metabolic and degenerative diseases of brain, nerve and muscle, as they affect children, e.g., Gaucher's disease, muscular dystrophy, mucopolysaccharide disorders. Basic and clinical studies will involve biochemistry, enzymology, morphology, genetic mechanism, and therapy.

7. Viral infections of the developing nervous system, acute and slow viruses.

8. Cerebral neoplasms in children. Incidence and prevalence studies, with monitoring at intervals of several years to identify any trends in rates over time.

9. Perinatal physiology as relevant to neurological development.
   a. Experimental models of human disease.
   b. Studies of neurological outcome of clinical neonatal therapies (see 11a, below).

10. Collaborative Perinatal Project. This prospective, long term investigation of approximately 58,000 women during their pregnancies, and the subsequent development (through age 7 or 8) of the children born of these pregnancies, has completed its data collection phase. On-going data analysis and interpretation will provide

extensive information concerning many of the areas listed above. Study data will be analyzed in ten primary topics: cerebral palsy, mental retardation, communicative disorders, visual abnormality, convulsive disorders, learning disorders, minimal brain dysfunction, congenital malformations, birthweight-gestational age relationships, and neuropathology, general pathology and placentology. Outcomes of the Collaborative Project will also result in research hypotheses which can effectively be tested in relatively small scale, specifically targeted studies.

11. Applied neurology of childhood: selected cooperative studies.
    a. Feedback on neurological outcome of neonatal interventions.
    b. Febrile seizures: risks, benefits of therapy.
    c. Risk factors for strokes and certain other acquired cerebral diseases of children.
    d. Evaluation of proposed therapies for specific neurological conditions, e.g., Reye's encephalopathy, Leigh's disease, and treatment regimens for cerebral palsy.

National Institute of Mental Health

Child mental health holds the highest priority for the National Institute of Mental Health. This emphasis extends to its various components in their particular research, training, and service programs. Most of the extramural research support is provided through the Division of Extramural Research Programs and its several Branches.

Research supported by the Behavioral Sciences Research Branch presently concentrates on the following child mental health areas: aggression and altruistic or prosocial behaviors, and expecially the effects of television on social or prosocial behavior; study of the effects of environments on individual functioning and adaptability, particularly those deriving from changing sex roles and expectations; learning and language disabilities, especially those deriving largely from difficulties in the processing of symbolic information and/or neuropsychologic motoric and sensory controls (to understand these aspects, further study of normal processes in the

above also will continue to receive emphasis); and research on the development of the sense of self-competence and autonomy in children and adolescents and how this relates to coping and adaptability. Needed methodological research relevant to the above foci also will be encouraged.

The Applied Research Branch focuses on such relevant concerns as prevention of child abuse; facilitation of intellectual and personality growth in children; new family life styles and their effects on child mental health; the relationship between learning disabilities and behavior disturbance problems; and mental health effects of school integration.

The Clinical Research Branch concentrates on studies of the nature of mental illness and its treatment. An especially active area of its research interest concerns studies of children at high risk for schizophrenia, which involve the longitudinal study of children with a schizophrenic parent. Emphasis also is placed on studies for the delineation and measurement of childhood mental disorders.

The Psychopharmacology Research Branch supports research on psychotherapeutic drug treatments with a variety of child disorders. Particular emphasis is placed on studies of what has been termed "minimal brain dysfunction" where the current focus has moved from short-term evaluation of drug efficacy and comparative drug efficacy to the long-term developmental consequences of pharmacotherapy. Research on combination modalities including behavior modification and special education also is being encouraged. The Branch has recently developed a Pediatric Rating Battery for use in description and measurement of the behavior of children involved in drug treatment programs. This battery is being made available to investigators for use on a national scale and should increase comparability of data from studies which previously used diverse measures.

The Center for Epidemiologic Studies is specifically stressing methodological studies which will result in instrument development and research on the identification and description of the incidence of and correlates of malfunctioning behavior in children, in a variety of situations (home, school, interpersonal).

The NIMH Division of Special Mental Health Research Programs also supports child research which is focused on specific problem areas of con-

cern. This is the responsibility of special Centers which individually concentrate on issues relative to minority group mental health problems, crime and delinquency, and metropolitan mental health problems. The Division's "Center for Studies of Child and Family Mental Health" provides a coordinating service for the various Institute child related programs.

Bureau of Community Health Services

The following recommended priorities are from the Report of the National Conference on Research in Maternal and Child Health, Berkeley, California, May 3-4, 1973, and represent the continuing research emphases of the Maternal and Child Health and Crippled Children's Services Research Grants Program, BCHS.

Planned research in delivery of health care to mothers and children will include several foci, as follows:

1. Study of essential resources, including identification of gaps.
2. Study of methods to bridge gap between knowledge and application of knowledge in delivery of care to mothers and children.
3. Study of effectiveness of health care to mothers and children.
    a. Evaluation of various types of interventions and their effects on mothers and children, including nonmedical aspects of health care.
    b. Study of effects of alternate practice patterns on outcomes.
    c. External forces, such as legal constraints, and how they affect outcomes of health delivery of mothers and children.
    d. Research on effects of standards on outcomes.
    e. Study of impact of quality review mechanisms (PSROs, etc.).
    f. Study of effect of organizational and management structures on outcomes.
4. Study of methods of identifying high risk mothers and children.

5. Study of methods of monitoring services.
6. Study of costs and cost control.
7. Study of linkages of health services for mothers and children with other resources.
8. Study of the effect of MCH resources on methods of instituting change.
   a. Study the use of research to influence public policy.
   b. Research in promoting changes in health behavior of mothers and children.

Habilitation and rehabilitation of handicapped children is another major area of concern. Research plans include the following studies:

1. Demographic study to delineate characteristics of population of handicapped children with respect to biological and environmental factors.
2. Longitudinal study to identify significant variables in production of handicapping conditions in children: e.g., effects of nutrition, drugs, etc., taken during pregnancy, effects of family environment, genetic factors, etc.
3. Study of mechanisms of management.
   a. Responsibility for health care.
   b. Interaction of health care system (CC programs) with educational and social welfare systems.
   c. Ability of CC programs to find handicapped children early.
   d. Variance in uniformity of criteria of acceptance into various CC programs.
   e. Health manpower needs.
   f. Effect of handicapped children on family life.
4. Census of children with handicapping conditions.
   a. Need for study at mid-decade (1975) of a probability sample of sufficient magnitude to estimate the prevalence of defined handicapping conditions in children.
   b. Provision of firm estimates of specific handicapping conditions of children for social policy formulation and program development.

Planned foci for regional programs for high risk mothers and infants include the following:

1. Development and utilization of criteria regarding outcome.
   a. Perinatal mortality.
   b. Perinatal morbidity.
   c. Long-term effects on neurosensory system.
2. Comparison of outcome in alternate systems of management.
   a. Centers for intensive care of mother and baby.
   b. Centers for intensive care of baby.
   c. Usual pattern of nonorganized community care.
3. Comparison of outcome of transported and nontransported infants.
4. Study of obstacles to regional pattern of care and use of regional centers.

Other content areas of high priority for research include development and study of predictive tools for parenting capabilities; adolescence; child abuse; and nutrition of mothers and children. Study of manpower for care of mothers and children will focus on needs, new roles, and methods of preparation for new roles. Abstracting publications and dissemination of current research in health care of mothers and children is another area of priority in plans for FY '75.

National Institute of Education

Priorities for the National Institute of Education allocation of funds for FY '75 include the following:

1. Provision of essential skills such as reading, language development, writing, and arithmetic, to all citizens.
2. Improvement of the productivity of resources in the educational system.
3. Understanding and improving the relationship of education and work.
4. Development of problem solving capability in the educational system at the state and local levels.
5. Increasing diversity, plurality and opportunity in American education.

Topics of research in which activity is likely to be continued cover reading and basic skills, education and work, finance and productivity, research methodology, educational equity, organization and management for change, and dissemination of research studies and products.

The Office of Education

Plans were available from Bureau of Education for the Handicapped, the Right to Read Program, and the Office of Planning, Budgeting, and Evaluation. At the time this report was prepared, no plans were available from Bureau of School Systems, Bureau of Occupational and Adult Education, and Office of Indian Education.

The Bureau of Education for the Handicapped

The Bureau is reevaluating and establishing new priorities designed to direct support for research and related purposes concerning early childhood services. Initial planning efforts suggest three dimensions along which issues relating to preschool education will be investigated. The first dimension separates the target population into infant education (age birth to about three years) and preschool education (age three to six years) studies. The second dimension is concerned with etiological labels. Finally, the third dimension describes content areas to be investigated; these content areas include:

1. Objectives of early education for handicapped children.
2. Characteristics of handicapped children which impact on early education programming.
3. Curriculum, techniques, and materials appropriate for the preschool handicapped.
4. Delivery of services to preschool age handicapped children.

Further planning efforts will be devoted to the following tasks: verifying the adequacy of this three dimensional approach, or modifying it if necessary; refining an organizational schema; identifying specific barriers to the accomplishment of early childhood services; and establishing priorities as to the problems, issues, and questions which need to be addressed through research support.

Programs for the preparation of personnel to function with preschool handicapped children are considered a priority by the Bureau of Education for the Handicapped. It is anticipated that full time preservice prepara-

tion will be provided for 800 students, chiefly at the Masters degree level. In addition, inservice training is planned for 1200 professional and paraprofessional personnel in special programs for handicapped children and in other early childhood programs that include handicapped children, such as Head Start.

The Right to Read Program

The goal of Right to Read is to insure that by 1980, 99% of all prople under 16 years of age living in the United States and 90% of all those aged 16 will possess and use literacy skills. To further the attainment of this goal, the following plans have been made for FY '75.

The State education component of Right to Read establishes a structure to enable state and local education agencies to address the organizational, managerial, and instructional practices which inhibit reading success among both children and adults. In FY '75, Right to Read plans to fund 50 State education agencies which will include 31 continuations and 19 new fundings. The newly funded projects will be one-year grants for state education agencies to use to develop a state reading strategy. The local education agency directors will target their efforts in districts having the highest incidence of children with reading difficulty.

The Right to Read Demonstration Program objective is to stimulate local education agency and community investment by demonstrating exemplary programs. In FY '75 the plans call for nine school-based projects, and 21 large school district or city projects funded on a continuation basis, as well as 55 community-based projects.

The Reading Education Reform is an effort to facilitate changes in reading education programs for teachers and administrators. The 34 projects supporting the higher education of elementary school reading teachers will be continued through FY '75. The National Impact Activities aimed at stimulating activity to help achieve the reading goal of the national effort will complete a mini-assessment of the reading achievement profile of 17-year-olds and will initiate 15 new reading academies.

The Office of Planning, Budgeting, and Evaluation

The OPBE plans and priorities discussed here were tentative at the time this report was prepared.

Over the past few years, the primary but not sole objective for evaluation activities in elementary and secondary education has been to initiate studies of the impact of the major Federal programs. Evaluations for most programs are now under way and substantial new findings may be expected during the next two years. Although program impact evaluations will continue to be the main concern, other needs in the elementary and secondary education area also will be addressed. Most of the on-going and planned activities can be placed in one of five categories: (1) assessing the impact of special programs for education of disadvantaged children; (2) assessing the impact of school desegregation programs; (3) assessing the effects of efforts to bring about change in elementary and secondary education; (4) planning for change in education of disadvantaged children; and (5) providing technical assistance to states on evaluation matters.

In assessing the impact of special programs for education of disadvantaged children, OPBE will continue the evaluation of large scale programs such as Follow Through which were designed for this population. In addition, OPBE plans to initiate, in FY '75, a new study of compensatory education. This will be a very large effort with multiple objectives but focused on determining the multi-year effects of compensatory education on the acquisition of basic cognitive skills by disadvantaged children. Another new study is proposed which would focus on the Migrant Program portion of Title I. One purpose of the project would be to develop a design for an impact evaluation of that program; other objectives have to do with issues raised by an earlier evaluation report on the growing Migrant Program. The Education Amendments of 1974 require the submission to Congress of two special reports on bilingual education. Although the on-going impact evaluation of Title VII and a planned needs assessment to be undertaken by the National Center for Educational Statistics will partially fulfill the Congressional requirements, a broader study must be launched to look on the overall condition of bilingual education in the Nation and the contribution

being made by all Federal and State programs for persons of limited English-speaking ability.

A second major Federal concern in elementary and secondary education has been to support equal educational opportunity through programs designed to help achieve successful school desegregation. On-going ESAA evaluations will measure the impact of the Federal programs on racial climate in the schools and the acquisition of basic skills by students. Also, an on-going study of the program funded under Title IV of the Civil Rights Act of 1964 will be completed in November, 1975.

To assess the effects of efforts to bring about change in elementary and secondary education, an evaluation, the Longitudinal Study of Demonstration Education Programs, will continue and will yield information about the impact of student outcomes of programs involving: (1) a high proportion of students in the school; (2) a significant commitment of resources; and (3) a departure from traditional classroom practices. It is thus a study of situations in which relatively large-scale, long-term commitments to changing what happens in the classroom have been made. In addition, the on-going Study of Change Agent Programs will not look at effects on students but rather at the factors, both controllable and uncontrollable, which promote or inhibit educational change. Beginning in FY '74, the project grant portion of Title III began a new, intensified effort to diffuse and cause adoption of exemplary educational programs. For two years almost all program funds are devoted to this effort. Subject to the development of a feasible design and to the availability of funds, OPBE proposes to undertake an assessment of the effectiveness of this Title III effort. Finally, an on-going study to see if there are any lasting effects from the variety of performance contracting projects undertaken several years ago will be completed in FY '75.

One of the major OPBE efforts in planning for change in education is the development of the Project Information Packages, detailed how-to-do-it descriptions for several proven approaches to compensatory reading and mathematics. Recently a field test of the packaging concept by means of ESEA Title III grants to school districts began. The long range plans are to continue development and implementation of packages in 1975 and beyond

via a new OE program. Another activity is aimed at identifying school programs, policies, and practices that contribute most to achieving and maintaining exemplary desegregated schools and to provide information for use by principals, superintendents, and other educational policy makers who wish to advance the prospects for equal educational opportunity.

In the area of provision of technical assistance on evaluation matters, OPBE is committed to taking several steps which should result in higher quality evaluations at the State and local level. One project which began in FY '74 and will continue in FY '75 will result in models for State Title I evaluation reports. A FY '73 project will yield, among other things, two documents dealing with evaluation of compensatory education. One is addressed to local education agencies and provides technical guidance (including particular evaluation models) for program evaluations; the second is aimed at State agency personnel and provides them with a guidebook for analyzing and making judgments about the effects of compensatory education programs based upon local evaluation reports. These on-going activities will contribute substantially towards the goal of providing States with technical assistance on the evaluation of Title I. In addition, beginning in FY '75, OPBE will survey State Education Agencies and a sample of local education agencies to determine their needs for technical assistance in a more detailed way. Using the results of the survey, plans will be made in FY '76 for the provision of assistance.

The United States Department of Agriculture

The Cooperative State Research Service (CSRS), the Extension Service (ES), the Agricultural Research Service (ARS), and the Food and Nutrition Service (FNS) are the channels through which the Department of Agriculture promotes research and educational programs directly focused on improving the quality of life of young children.

In FY '75 the Cooperative State Research Service, through the State Agricultural experiment stations, is supporting research especially in relation to the general areas of nutritional adequacy and dietary improvement, early childhood education, sibling and peer relationships, family interaction patterns, and day-care center programs. Still other research is centered

or planned on social and environmental concerns, child rearing practices, patterns of social competencies and development of effective coping or adaptive capacities.

Broad educational programs applicable to children are of major concern to the Extension Service. Programs in nutrition education, clothing needs, family life, resource management and other areas relative to human development are effectively implemented by the State extension services throughout the Nation. Programs in child and day-care are also of significant magnitude.

Within the Department, the Agricultural Research Service is responsible for administering programs relative to the health and safety of individuals including children and infants. Given special consideration are research activities related to improvement of nutritional health, family management and consumption, and other general areas related to the welfare of children and all other human beings.

The Food and Nutrition Service maintains close liaison with other agencies in the Department of Agriculture, and in the Department of Health, Education and Welfare in carrying out programs to safeguard the health of the Nation's children. Through the National School Lunch and Breakfast Programs funds are made available to reimburse participating schools for a portion of the food costs of breakfasts and lunches served to children.

Through the Special Food Service Program cash assistance is available for food service for children in nonresidential group activities including day care centers and summer recreation centers in low income areas or from areas with many working mothers. Special Milk Program funds are used to reimburse schools and child-care institutions for the cost of reducing milk prices to children.

The Food and Nutrition Service is also responsible for the administration of the Food Stamp Program which is a major means of eliminating hunger and improving the diets of low-income households by supplementing the food purchasing power of these households. This agency donates food to States for distribution to needy families, schools and other institutions participating in child feeding programs. Other supplemental food programs are also administered by the Service.

Member Agencies' Plans in Selected Research Areas

This chapter concludes with a look at levels of agency interest for FY '75 in specific areas of research. The data shown in Table 66 were derived from questionnaires distributed to individuals within the member agencies. For each area, the agencies who indicated a high, medium or low level of interest are listed in the appropriate columns. A rating of high indicates that an agency will give a relatively great deal of priority to research activity in that area. (An asterisk in the high column shows that the agency considers the area to be of especially high interest, relative to other priority areas.) Medium is designated when the research area is of substantial but secondary interest to the agency. Low denotes areas of research which might be supported but on a very low priority basis. A plus or minus shown in parentheses following an agency acronym indicates that the agency's FY '75 level of interest in that area has increased or decreased significantly from FY '74.

Table 66

Agency Plans for Early Childhood Research in FY '75

Specific Interests by General Area	Level of Agency Interest FY '75[a]		
	HIGH	MEDIUM	LOW
THE DEVELOPMENTAL PROCESSES			
Cognitive development	NIMH	OCD	
Perception/attention	NICHD,NINDS, NIMH,BCHS	OCD	NIE,OPBE, USDA
Thought processes	NICHD,NINDS, NIMH	OCD	NIE,OPBE, USDA
Learning	NICHD,NINDS, NIMH,OPBE	OCD,BCHS, NIE	USDA
Language	NICHD,NINDS(+) NIMH,OPBE*	OCD,BCHS, NIE(+)	
Intellectual handicaps	NICHD,NINDS	OCD,NIMH	BCHS,NIE,USDA
Socioemotional development	NIMH	OCD,USDA(+)	
Socialization/personality	NICHD,NIMH	OCD,BCHS	NIE,OPBE
Emotional development	NIMH	OCD,USDA(+)	NICHD,NIE, OPBE
Attitudes and behavior	NIMH	OCD,NICHD, OPBE,USDA(+)	NIE
Physical development			NIMH
Body growth	NICHD,NINDS, BCHS		OCD,NIMH,USDA
Sensori-motor development	NINDS,BCHS	OCD,NICHD, NIMH	NIE,USDA
Physical disease and illness	NINDS,BCHS	NICHD,NIMH(+) HUD(+)	USDA
Fetal and neonatal health/ nutrition	NICHD,NINDS BCHS	NIMH(+)	USDA
Physical handicaps	NINDS,BCHS	OCD,NICHD	NIMH,USDA

Table 66
(Continued)

Specific Interests by General Area	Level of Agency Interest FY '75[a]		
	HIGH	MEDIUM	LOW
THE CHILD'S ENVIRONMENT			
The family	NIMH		
Structure of the family	OCD(+),NIMH	NICHD,NINDS	USDA,OPBE
Family functioning	OCD(+),NIMH, USDA(+)	NICHD	
Family health		OCD,NINDS, BCHS	NICHD,NIMH USDA
Family's interface with society	OCD(+),NIMH(+) USDA(+)		NICHD
Ecology of the home (e.g., child's interaction with home surroundings)	NIMH	OCD,USDA(+)	NICHD(-)
Parenting skills	OCD,NIMH*	NICHD,BCHS	NIE,USDA
Involvement of parents in research/development	NIMH	OCD,BCHS	USDA
The neighborhood/community environment			NIMH
Ecology of the community	USDA(+)	OCD	NICHD(+),NIMH
Physical environment (e.g., facilities, housing)	USDA(+)	NINDS,BCHS	NICHD(-), NIMH
Social/cultural/religious environment	NIMH	OCD,NINDS, USDA	NICHD
Mass-media and TV		OCD	NICHD,NIMH, NIE,USDA(+)
Social changes and crises (e.g., unemployment,geographic mobility)	NICHD		OCD,NIMH,USDA
Legal rights and responsibilities of children		OCD,NIMH(+)	NIE,USDA

Table 66
(Continued)

Specific Interests by General Area	Level of Agency Interest FY '75[a]		
	HIGH	MEDIUM	LOW
THE CHILD'S ENVIRONMENT (Continued)			
Day care		NIMH(+)	
Impact on the child		OCD,NIMH(+), BCHS	NICHD,USDA
Impact on the family		OCD,NIMH(+)	NICHD,USDA
Delivery of day care services	OCD(+)	USDA	NIMH
Alternatives to day care	NIMH	OCD	USDA
Education			
Infant education	NIMH*(+)	OCD,BCHS	NIE,OPBE
Preschool education	NIMH	OCD,USDA	NIE,OPBE
Special education	NIMH	OCD,NICHD	NIE,USDA
Individualized instruction	NIMH	OCD,NIE,OPBE	
Bilingual instruction	OPBE*(+)	OCD,NIMH(+), NIE(+)	
Innovative educational methods	NIMH*,OPBE	OCD,NIE(+)	NICHD,USDA
Reading	NIE*(+), OPBE*	OCD,NICHD, NINDS,NIMH	
Health care and services	NIMH		
Mental health	NIMH*		OCD,BCHS,USDA
Physical health	BCHS*	NINDS,USDA	OCD,NICHD, NIMH
Nutrition	NICHD,BCHS USDA(+)	NIMH(+)	OCD,NIE(+)
Handicaps	NICHD,BCHS	NINDS,NIMH	OCD,USDA

Table 66
(Continued)

Specific Interests by General Area	Level of Agency Interest FY '75[a]		
	HIGH	MEDIUM	LOW
THE CHILD'S ENVIRONMENT (Continued)			
Health care and services (Continued)			
Pre- and post-natal care	NICHD,NIMH* (+),BCHS*		OCD,USDA
Family planning	NICHD	BCHS	OCD,NIMH
Welfare services		NIMH	
Foster care and adoptive services		OCD	NIMH,BCHS
Child abuse	OCD(+),NIMH* (+),BCHS(+)		
Emergency services		OCD,BCHS	NIMH
Advocacy	NIMH*	OCD	
Global approach	NIMH		
Whole child-interrelations among developmental processes	NICHD,NINDS, NIMH*	OCD	OPBE,USDA
Ecological studies	OCD(+),NIMH	NICHD,OPBE	USDA
Combined and/cr comparative effects of social programs	OCD(+),NIMH OPBE*	USDA(+)	NIE(+)
RESEARCH TARGET GROUP			
Prenatal	NICHD,NINDS NIMH(+),BCHS*		NIE,USDA
Infancy	NICHD,NINDS (+),NIMH*(+) BCHS*	OCD	NIE,USDA

Table 66
(Continued)

Specific Interests by General Area	Level of Agency Interest FY '75[a]		
	HIGH	MEDIUM	LOW
RESEARCH TARGET GROUP (Continued)			
One to three years of age	OCD(+),NICHD, NINDS(+), NIMH*(+),BCHS*		NIE,USDA
Preschool age	OCD,NICHD, NINDS(+),NIMH, BCHS	USDA(+)	NIE
Kindergarten and elementary school age	NICHD,NINDS, NIMH,NIE(+), OPBE*	OCD,BCHS, USDA(+)	
Minority ethnic groups	OCD(+),NINDS, NIMH,OPBE*	NIE,OPBE	NICHD,BCHS, USDA
Disadvantaged	OCD,NINDS, NIMH,BCHS, OPBE*	NICHD,NIE	USDA
Gifted	NINDS	OCD	NICHD,NIMH, NIE,USDA
Average ability	NICHD,NINDS, NIE(+)	OCD,OPBE	NIMH,USDA
Physically handicapped	NINDS,BCHS	OCD	NICHD,NIMH NIE,USDA
Intellectually handicapped	OCD(+),NICHD, NINDS,NIMH*, BCHS		NIE,USDA
Bilingual	OCD(+),NINDS OPBE*	NIMH,NIE(+)	NICHD,USDA
Learning Disabled	OCD(+),NINDS, NIMH,BCHS	NICHD	NIE(+),USDA
RESEARCH ON METHODOLOGY			
Tests and measures development	OCD(+),NINDS, NIMH	BCHS,NIE, USDA(+)	NICHD

Table 66
(Continued)

Specific Interests by General Area	Level of Agency Interest FY '75[a]		
	HIGH	MEDIUM	LOW
RESEARCH ON METHODOLOGY (Continued)			
Program evaluation methods	OCD(+),BCHS	NINDS(+),NIMH, NIE,USDA	NICHD
Observational methods	NIMH	OCD,NINDS, BCHS	NICHD,NIE, USDA
Interview, survey, questionnaire methods	NIMH	OCD,NINDS	NICHD,BCHS, NIE,USDA
Research design	NIMH	OCD,NICHD, NINDS,BCHS, NIE(+),USDA	
Statistical techniques	NIMH,BCHS	OCD,NICHD, NINDS,NIE(+), USDA	
Methodology of longitudinal research	NIMH	OCD,NINDS, BCHS,NIE(+), USDA(+)	NICHD
Methods to improve comparability	OCD(+),NIMH	NICHD(+),NINDS, NIE(+)	BCHS,USDA
STUDY OF RESEARCH PLANNING AND DISSEMINATION			
Planning interagency research		OCD,NINDS,NIMH	NICHD,BCHS, NIE(+),OPBE, USDA
Planning interdisciplinary research	OCD(+),NINDS	NICHD,NIMH, BCHS,NIE, USDA(+)	
Conferences/studies relating to Federal research needs and goals	NICHD,NINDS	OCD,NIMH,BCHS, NIE,USDA(+)	
State-of-the-art papers	OCD	NICHD,NINDS, NIMH,BCHS,NIE, USDA	

Table 66
(Continued)

Specific Interests by General Area	Level of Agency Interest FY '75[a]		
	HIGH	MEDIUM	LOW
STUDY OF RESEARCH PLANNING AND DISSEMINATION (Continued)			
Studies of dissemination/ utilization of findings	OCD(+),BCHS, NIE*(+), USDA(+)	NINDS(+),NIMH	NICHD
Development of information collection, processing and analysis systems	OCD(+),NINDS, NIMH,BCHS, USDA(+)		NICHD,NIE

* Indicates that the area is of especially high interest to the agency.

[a]Pluses and minuses in parentheses indicate that the level of the agency's FY '75 interest in this area has increased or decreased significantly from FY '74.

APPENDIX A

EARLY CHILDHOOD PANEL MEMBERSHIP LIST

EARLY CHILDHOOD PANEL MEMBERSHIP LIST*

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APPENDIX B

GUIDELINES AND PROCEDURES
FOR USE OF INTERAGENCY PANEL INFORMATION SYSTEM

GUIDELINES AND PROCEDURES FOR USE OF INTERAGENCY PANEL INFORMATION SYSTEM

The Interagency Panel on Early Childhood Research and Development in 1971 established a computerized data system in order to facilitate the sharing of information and to encourage the coordination of planning among the member agencies. Prior to the establishment of this data system, no organization collected and disseminated information about ongoing research from all of the Panel member agencies. The data bank, now in its fourth year of existence, incorporates a unique and ever expanding data file about early childhood research grants and contracts funded by member agencies.

Since 1971, the Social Research Group staff has annually developed a more comprehensive book of descriptors with corresponding codes. This book is used to classify each project according to a given set of qualifying characteristics. In the early years of the Panel, agency representatives classified their own agency projects and that information became the basis of the computerized data bank. Today, however, the collection, coding and computerizing effort has grown considerably. The Panel staff now collects and codes the projects from a growing number of member agencies. The computerized data system contains over 3,000 projects on early childhood and adolescence classified by 525 descriptors as compared with a 1971 data bank of 750 projects classified by 150 descriptors. This expanded collection and classification effort allows for more detailed research analyses.

Data System Operation

Projects are characterized by a set of four digit codes which correspond to a set of descriptors. The coding system is broad enough in scope to include detailed information about a project's funding and duration, sample characteristics, purpose, methodology and data collection techniques, and areas of research focus.

Each project within the data system is assigned a five digit computer identification number. The first two digits represent the agency code number

and the last three digits identify the particular project in the agency. The data base for early childhood research is drawn from the following agencies:

01 Bureau of Community Health Services (BCHS)
02 National Institute of Mental Health (NIMH)
03 National Institute of Child Health and Human Development (NICHD)
05 Office of Child Development (OCD)
07 Social and Rehabilitation Service (SRS)
08 OE--Bureau of Education for the Handicapped (BEH)
09 OE--Bureau of School Systems (BSS)
15 National Institute of Neurological Diseases and Stroke (NINDS)
16 OE--Title III
17 OE--Right to Read
21 National Institute of Mental Health--Intramural Research
22 National Institute of Child Health and Human Development--Intramural
24 United States Department of Agriculture (USDA)
25 OE--Bureau of Occupational and Adult Education (BOAE)
26 OE--Office of Planning, Budgeting, and Evaluation (OPBE)
29 Department of Labor (DOL)
30 National Institute of Education (NIE)
33 OE--Office of Environmental Education (OEE)
34 OE--Office of Equal Education Opportunity (OEEO)
35 National Institute of Drug Abuse (NIDA)
36 OE--Office of Indian Education (OIE)
37 National Institute of Alcohol Abuse and Alcoholism (NIAAA)

After the projects have been coded, the numeric codes are keypunched, verified, and programmed onto a computer tape and a disk data set.

Essentially, the data system is composed of four data files: (1) Literal file. This file contains the name of the funding agency, the project identification number and project title. (2) Numeric file. This file contains coded descriptor sets which characterize the project under study. Each project within the system is defined by a separate set of characteristics, all of which are drawn from the classification scheme. (3) Funding file. This file contains the FY '74 funding. If no funds were expended in FY '74 or if project funding was not available, the project is marked as having received "0" funds. Since continued projects maintain the same identification number from year to year, it is possible to obtain the previous year's funding on a given project. (4) Instrumentation file. This file contains a coded list of standardized instruments which were utilized in each study. Homemade and other uncommon tests and measures are coded under a general set of descriptors, such as physical test, questionnaire, interview and other items.

These four files, although input as separate data sets, are eventually merged into one data system master file. In addition, the principal investigators of the projects in the data system are listed alphabetically, along with the identification numbers of their projects.

Requests may be made for information retrieval from all of the above mentioned files. Also, a brief abstract is available for each research project contained in the data system. This abstract usually contains the purpose, objectives, methodology, and when available, the sample characteristics and the instrumentation used in the study. Given the assumption that the information available is intended to function as a guide to direct the requestor toward the principal investigator and/or the sponsoring agency for further information, the abstracts are kept as short and concise as possible.

How to Make a Request

A request for information about the data system projects may be made in writing or by telephone (followed by a written request) to:

Social Research Group, G.W.U.
Attn: Ronald H. Ouellet
2401 Virginia Avenue, N.W.
Washington, D.C. 20037

Telephone: (202) 331-8706

In general, the more specific the request the better the response to that request. Information requests can be more accurately answered if code numbers are included in the request. Descriptors and corresponding code numbers are contained in the Social Research Group classification scheme (Harrell, 1974). A typical example of a request might be:

> Send titles, funding and abstracts of all agencies' projects dealing with cognitive development (5049) in urban (2050) black (2033) children ages 3 to 5 (2006, 2007, 2008), in a day care setting (5293).

The computer program for information retrieval is flexible enough to meet a wide variety of needs of the requestor. Program capabilities allow for the printing of these types of information: (1) identification number; (2) project title; (3) funding; (4) number of qualifying projects, and amount

of funding within and across agencies. Additional statistical information is available on request.

Policy for Information Release

The policy of both Panels is that whatever information is in the data bank should be made available to whoever makes a request. In recent years an increased number of requests for information has come from interested agencies and from persons outside the Federal Government, and there has been a much greater dissemination of information from the data system this year than in any previous year. Numerous requests have been answered for Panel member agencies, other Federal agencies, Congressional committees, universities, foundations, institutes, and individual researchers.

In order to keep the Panel members informed of all requests that are received, the Social Research Group keeps a log of the following information: (1) name of requestor; (2) nature of request; (3) information supplied in terms of the data maintained in the Social Research Group information system. Staff reports on requests and responses are made at the regular meetings of the Panels.

APPENDIX C

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March 4 and 5, 1974

PARTICIPANTS IN THE CONFERENCE ON FAMILY RESEARCH

March 4 and 5, 1974

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APPENDIX D

JOURNAL EDITORS PARTICIPATING IN THE NOVEMBER 4, 1974
CONFERENCE ON COMPARABILITY IN RESEARCH

JOURNAL EDITORS PARTICIPATING IN THE NOVEMBER 4, 1974
CONFERENCE ON COMPARABILITY IN RESEARCH

Eli M. Bower
American Journal of Orthopsychiatry

Philip Costanzo
Journal of Personality

Greta G. Fein
Journal of Social Psychology

H. Carl Haywood
American Journal of Mental Deficiency

Wendell E. Jeffrey
Child Development

Celia S. Lavatelli
Quarterly Review of Early Childhood Research

Boyd R. McCandless
Developmental Psychology

Samuel Messick
Review of Educational Research

Waldo E. Nelson
Journal of Pediatrics

Daniel Offer
Journal of Youth and Adolescence

David S. Palermo
Journal of Experimental Child Psychology

Charles D. Spielberger
American Journal of Community Psychology

Kaoro Yamamoto
American Educational Research Journal

Morris Zelditch
American Sociological Review

APPENDIX E

DOCUMENTS PREPARED FOR THE INTERAGENCY PANELS ON EARLY CHILDHOOD AND ADOLESCENCE RESEARCH AND DEVELOPMENT*

DOCUMENTS PREPARED FOR THE INTERAGENCY PANELS ON EARLY CHILDHOOD AND ADOLESCENCE RESEARCH AND DEVELOPMENT*

Section 1: 1973-1974

Bell, R.Q. & Hertz, T.W. Towards more comparability and generalizability of developmental research. Manuscript submitted for publication, 1974.

Escalona, S.K. Research and service delivery problems concerning the impact of hospitals (including outpatient facilities) on the mental health of young children, March 1973.

Grotberg, E.H. An interagency approach to improved research planning and utilization for Federal agencies of the USA. Courrier, 1974, 24, 117-122.

Grotberg, E.H. (Chair). Panel discussion: Comparability and cross-results analyses in social science research. A series of papers presented at the annual convention of the American Psychological Association, New Orleans, September 1974:

Bell, R.Q. & Hertz, T.W. Societal change and rate of research progress.

Hurt, M., Jr. A progress report on developing comparability in research.

Pearl, D. In furtherance of cumulative knowledge: Some NIMH initiatives.

Grotberg, E.H. (Chair). Panel discussion: The Interagency Panels for Early Childhood Research and Development, and Research and Development in Adolescence. A series of papers presented at the annual meeting of the American Educational Research Association, Chicago, April 1974:

Bobbitt, J. Rationale and background for the formation of Interagency Panels.

Datta, L. Implications of Panel activities for the research community.

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*Listed documents are available from Social Research Group, The George Washington University.

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Hertz, T.W. & Harrell, A.V. Toward interagency coordination: An overview of Federal research and development activities relating to early childhood, fourth annual report, December 1974.

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AGENCY INDEX