Researchers in the social sciences have long emphasized the importance of bringing their shared knowledge and skills to bear on significant social problems. This was the vision that gave rise, in 1924, to the Committee on Child Development, and seven years later, to the establishment of the Society for Research in Child Development (Hagen, in press). Today this philosophical position is expressed in “applied developmental science.” Developmental science refers to the study of systematic and successive change in individuals over the lifespan (Fisher, Murray, et al., 1993). This discipline recognizes the ongoing interaction between biological development and the physical and social environment. It investigates change within the individual and between individuals. Normative developmental patterns provide the basis for understanding both typical and atypical development. Applied developmental science pertains when the aim is not just to understand but to intervene in social problems.

As students in developmental science, we find many young developmental scientists seeking opportunities to apply developmental principles in this manner; they are interested in forging careers that blend their research training with social policy concerns. At the 1995 biennial meeting of the Society for Research in Child Development, an invited conversation hour led by several graduate students focused on the link between developmental science and social policy and the types of skills and training needed to integrate the two. Following the meeting, further conversations ensued both within this group and with exemplars in the field, professionals who are currently bridging the gap between science and policy. This report elaborates the major themes from these discussions:

(1) how developmental research can affect public policy;
(2) what skills researchers need to be effective outside an academic setting;
(3) how to acquire these skills;
(4) what alternative career paths are possible; and
(5) how academic institutions can provide opportunities for applied developmental training.
How Research Can Affect Policy

Research on children and families has the potential to contribute to the policy process at every step of the way—through theory building, agenda setting, and informing policymaking, as well as policy and program development, implementation, and evaluation. Some brief examples are provided to illustrate how research can affect policy. (A comprehensive analysis is beyond the scope of this report; for more in-depth discussion of the relationship between research and policy, see Lorion, Iscoe, DeLeon, & VandenBos, 1996, and Shotlan & Mark, 1985.)

Theory Building

Basic research, even if not immediately applicable, can have important implications for policy. For example, the finding that sensitive, one-on-one interactions with adults are important to the optimal development of infants and young children has led to changes in thinking about day care, particularly about infant-caregiver ratios (Hayes, Palmer, & Zaslow, 1990). Theory and basic research on attachment have also been invoked in shaping school policies on classroom assignment to keep young children with the same teacher for more than a single year (Pianta & Steinberg, 1992).

Agenda Setting

Developmental research can also play a role in forming and directing a policy agenda. For example, in 1965 President Johnson’s agenda for the War on Poverty was significantly influenced by events in the research community. Zigler and Muenchow (1992) describe how a relatively limited body of research suggesting the positive effects of early intervention on mental retardation sparked a media blitz and a national fascination with the possibility of increasing children’s I.Q. The political climate reflected these findings. And the public also responded to mounting evidence that adverse environments could significantly impair young children’s development, but that such impairments could be remediated by multifaceted intervention. These events, including a fortuitous budget surplus, helped set the stage for a large national program aimed at providing impoverished children with an enriched early environment and thus a potential “head start” in the educational system (Schorr, 1988). Bolstered by the developmental theory and research of the time, the antipoverty agenda that had previously focused on adults was expanded to include programming that emphasized the healthy development of young children.

Policy Making

A wide range of research, from case studies to analyses of population trends, has been brought to bear on the formulation of policies meant to optimize the health and well-being of children and families. The realization, for example, that characteristic burn, bruise, and scar patterns could point to the presence of child abuse spurred the social reforms regarding child maltreatment that have emerged over the past 30 years. In 1962 pediatric radiologists’ original research efforts aimed at finding the “unspecified origin” of types of bone fractures appearing on x-rays (Coffey, 1946, cited in Pfohl, 1977) culminated when pediatrician Henry Kempe and his collaborators in psychiatry, obstetrics, and radiology published what became a landmark article, “The Battered-Child Syndrome” (Kempe, Silverman, Steele, Droegemueller, & Silver, 1962; see also Pfohl, 1977; Pleck, 1987). This work confidently identified parental misconduct as the cause of these injuries and spurred media reporting of the mistreatment of children (Corby, 1993; Pleck, 1987). Subsequent surveys of its prevalence, lobbying efforts chaired by pediatricians, and congressional authorization of grants to combat child abuse led all 50 states to pass, by 1967, child abuse reporting legislation (Kerns, Terman, & Larson, 1994; Pleck, 1987). In 1973, under the leadership of Senator Walter Mondale, Congress passed the Child Abuse Prevention and Treatment Act. Enacted in 1974, P.L. 93-247 established the National Center on...
Child Abuse and Neglect, located within the Children's Bureau; this agency authorized federal funds to support the identification, prevention, and treatment of child abuse and neglect; and it has stimulated further federal legislation (Cicchetti, Toth, & Hennessy, 1993).

On a different scale, identifying social and demographic trends can also draw attention to policy needs. One example is the documented increase in maternal employment and public awareness of its significance for families. Interest in work and family issues (Meisenheimer, 1989) helped bring about the passage of the Family and Medical Leave Act in 1993. In demonstrating that a majority of mothers of infants born in 1987 were returning to work by their child's first birthday (U.S. Bureau of the Census, 1988), a trend that had been growing since the 1970s, parental leave advocates could rally for the initiation of federal policies to support working parents (Hayes et al., 1990; Meyers, 1988; Finn-Stevenson & Trzcinski, 1991).

PROGRAM DEVELOPMENT AND IMPLEMENTATION

Some lines of research explicitly inform the shaping of intervention programs (Fisher, Murray, et al., 1993; Fisher, Rau, & Colapietro, 1993). A good example, again, is Head Start. Along with a multidisciplinary group of child professionals, developmental psychologists not only provided some of the impetus to include the needs of poor children in the antipoverty platform, but also provided evidence that a quality early-intervention program must focus on the broader developmental needs of children, not solely on their cognitive skills. As a result, Head Start began and has continued as a multidisciplinary program—to include health, nutrition, and social services, as well as social and cognitive developmental components (Schorr, 1988).

Another such project-in-the-making is the Mental Health Consequences of Family Transitions to Early Childbearing Project (FTECP), more informally, the “Teen Moms Project” (Caldwell, Antonucci, Jackson, Wolford, & Osofsky, in press). The Teen Moms Project is taking an intergenerational and family-systems approach to the study of adolescent childbearing, a topic of central concern to current debate over welfare reform. For example, with some states passing laws mandating that teen mothers live with their parents, it is important to investigate the ramifications of such policy decisions on the mental and physical well-being of the teen mother, her infant, and other family members. Learning more about the impact of living arrangements on psychological well-being has implications for the shaping of welfare policy.

This project also has the potential to produce relevant findings on the impact of other contextual, social, and individual factors that influence the social and mental health functioning of adolescent parents and their families—including grandparents and offspring, along with the teenager. The project's inclusion of both African American and European American families demonstrates its sensitivity to possible cultural differences in the transition to early childbearing. Among the questions being addressed is how support from friends and family may or may not protect against a range of mental health problems, including depression. The project's family-systems approach may lead to the conclusion that working with the family as a whole is more appropriate than individual counseling, a finding that would have implications for both program development and implementation.

POLICY AND PROGRAM EVALUATION

Other research directly evaluates social programs and public policies, specifically to determine how well a program or policy is working and why (Fisher, Murray, et al., 1993; Goldstein, Wilson, & Gerstein, 1983). One such study addressed the effects of mandated special education services under the Education for All Handicapped Children Act (P.L. 94-142). Of interest was whether special education students were retaining their classification when they moved from one school district to another; it is
well established that such a classification can have lasting effects on a child’s overall educational experience (Singer, Palfrey, Butler, & Walker, 1989). Researchers were able to predict, for each of the five American cities sampled, which classification students were likely to receive were they to move to any of the other four districts. While the percent of students who retained their original special education category varied by home district and by original classification, overall, those originally classified as emotionally disturbed and mentally retarded were the most likely to be given a different special education classification if they moved, while those labeled as hearing impaired were the most likely to retain their classification if they moved. Special education classification policy was found to be inconsistent across school districts (Singer et al., 1989).

The New Chance demonstration provides a more recent example of research being brought to bear on a social program. New Chance is a two-generation program specifically targeting young mothers aged 16 to 22 who are both high school dropouts and recipients of Aid to Families with Dependent Children (AFDC). Designed and managed by the Manpower Demonstration Research Corporation, this program provides comprehensive, integrated services, including adult education and GED preparation, job training, life skills instruction, parenting education, child care, family planning, and other health services such as pediatric care. Approximately 2,200 families have been randomly assigned to treatment and control groups in 16 different research sites. Families will be followed for a period of 3 years. Outcomes to be assessed include parents’ education and employment status, parenting and the parent-child relationship, children’s health and development, and a cost-benefit analysis of program implementation (Quint, Musick, & Ladner, 1994; Smith, 1995). This initiative marks one of the few attempts to evaluate the effects of such a program on the lives of children, and not just adults.

Skills Needed by the “Policy” Researcher

Graduate training in developmental science prepares us in two crucial areas: (1) research methodology and (2) substantive knowledge about children and families. This expertise is requisite to the pursuit of a career aimed at bringing science to the policy process—whether through research, program development, philanthropy, advocacy, or public service. Generally, academic programs prepare students to examine issues from several perspectives, to evaluate research results in terms of methodological rigor and empirical significance, and to critically assess findings from large bodies of research—all essential skills, regardless of one’s particular career aspirations.

But what other skills must we acquire to be effective? Two areas not typically addressed in many graduate programs are (1) how to formulate research in a way that is useful in the policy arena and (2) how to communicate findings to nonacademic audiences, namely, to policymakers and to the public.

Formulating Policy- Relevant Research

Asking pertinent and timely questions. Framing questions to make research useful to the policymaker is a first step. Although descriptive research, which characterizes an aspect of development or a context at a point in time, can yield rich information, it may fail to show how development can vary in different contexts. Explanatory research, on the other hand, focuses on how patterns of development may change depending on individual differences and the context. In this case, the researcher introduces variation or capitalizes on naturally occurring variation (considered intervention research [Lerner, 1995]). Such studies can offer a greater level of specificity that may better fit the needs of policymakers.

An example of explanatory research is the evaluation of the Resolving Conflict Creatively Program (RCCP), a comprehensive school-based
program focused on reducing violence and increasing caring and cooperative behavior among students in grades K to 12. Begun in 1985, RCCP came about through a collaboration between the New York City Board of Education and a nonprofit organization, Educators for Social Responsibility-Metro, now one of the largest and longest-running school-based conflict resolution programs in the country. RCCP was one of 12 programs funded by the Centers for Disease Control and Prevention as part of an initiative to identify and formally evaluate youth violence intervention programs. The evaluation of RCCP includes a sample of approximately 9,000 elementary school students attending 15 schools in four school districts in Manhattan and Brooklyn (Aber, Brown, Chaudry, Jones, & Samples, in press). Data have now been collected from students and teachers at four different times over a 2-year period.

A central question guiding the design of the evaluation was how the effects of RCCP on children’s cognitive and behavioral development as it relates to aggression and violence are moderated by other child and context factors—namely, intensity of intervention, developmental stage of child, children’s sociodemographic characteristics, and classroom, school, and neighborhood composition. Such findings are particularly salient to policymakers. Insights into program effectiveness—for children of different ages, racial and ethnic backgrounds, economic status, and schools and neighborhoods—have implications for decisions about cost and where and when to intervene.

The timing of a study is also important. The researcher must be aware of the policymaker’s needs and anticipate the kinds of information that will be most useful. For example, the Children’s Television Act, passed by Congress in 1990, specifically requires television stations to provide educational programming for children and to document their educational programming in the renewal application. “Educational programming,” however, is left undefined, and no standard definition exists in the industry. Anticipating the industry’s response to this loophole, Dale Kunkel, who testified before house and senate subcommittees and advised legislative staff on the Children’s Television Act, investigated what he called the “re-label hypothesis.” Kunkel predicted that TV stations, lacking an industry-wide standard defining “educational programming,” would re-label some entertainment programs as educational. A survey of license renewal applications revealed, as predicted, many frivolous claims to educational programming (Kunkel & Canepa, 1994; Kunkel & Goette, 1996), thus highlighting the need to incorporate more explicit criteria for what constitutes educational, versus entertainment, programming in future efforts to improve children’s television.

Making judgments about usefulness. It is one thing to link research and practice conceptually, another to acknowledge the limitations of relevant data. Various criteria are used in judging the adequacy of research for informing policy—for instance, whether findings are consistent across different samples or methodologies, or whether researchers reach consensus on a given issue. Researchers must, in addition, balance their conclusions against the social, political, and economic pressures faced by the policymaker. Such considerations demand a high level of flexibility.

Past and present dialogue on the consequences of day care for children’s healthy development illustrates some of these tensions. Early research on the effects of day care on infants, particularly of extensive day care use during the first year of life on the mother-child attachment relationship, was inconclusive. Findings were controversial in light of the economic reality that necessitated, and still does, increasing involvement of women in the work place. Given the important scientific and policy implications of these findings, the National Institute of Child Health and Human Development (NICHD) initiated a longitudinal, multisite study to resolve questions about the effects of day care. Of interest is how variations in child care experience,
family characteristics, and child characteristics affect the social, emotional, cognitive, linguistic, and health outcomes of children. This comprehensive study is being conducted by 24 investigators who represent a variety of perspectives.

Results to date based on measures taken at 15 months have recently been made available. Analyses reveal no relationship between infant day care experience and mother-child attachment, except under conditions of “dual risk,” e.g., insensitive mothering combined with poor-quality day care (NICHD Early Child Care Research Network, in press). Given the signifi-
cance of these findings for the nation's families, however, the research team is continuing to examine other domains of the children's development and to follow them over time as they grow older.

COMMUNICATING FINDINGS TO A NONACADEMIC AUDIENCE

Clarity, brevity, and everyday language. Most graduate programs do not emphasize concise or jargon-free writing. We are given little practice, for instance, in quickly preparing brief memos and executive summaries, or in writing for non-technical audiences—skills one needs for effective communication with policymakers and the public at large (Huston, 1994). Most writing in our field is aimed at a limited professional audience, but an exception recently found members of the Society for Research in Child Development, the Society for Research on Adolescence, the International Society for Infant Studies, and Division 7 (Developmental Psychology) of the American Psychological Association collaborating on a series of “research briefs” targeted at a broader audience. The briefs focused on topics of current policy interest about which our field can offer strong research findings. The specific topics included adolescent childbearing, child care, child nutrition, and the consequences of poverty for children and families. The briefs were disseminated to the staff of programs serving children, program evaluators, funders, policymakers, and the public at large through the media.

Capturing subtlety without detracting from the main point. Developmental scientists are taught to be critical of the content, process, and interpretation of research, and how to go about evaluating conflicting findings or rival hypotheses (Zervigon-Hakes, 1995). In contrast, policymakers typically need definitive answers and a concise summation of facts. Zigler highlights this contrast when describing a congressman's response to a researcher's testimony: “What this country needs is a one-armed psychologist. You guys are always saying 'on the one hand . . . but on the other hand’” (1993, p. 11). Presenting information without a clear and definite message risks failure. Scholars experienced in the policy arena emphasize the importance of tying together the most advanced thinking on a topic and framing it in a way that is optimally informative.

The press release of the most recent findings from the NICHD Study of Early Child Care (National Institute of Child Health and Human Development, 1996) and the subsequent report by The New York Times provide a good example of how a controversial issue can be presented in a comprehensive, balanced, and yet conclusive manner. The reporter first established the relevance of the research on maternal employment to the public, then clearly described the findings to date, giving the competing views on the topic and how the findings help resolve previously unanswered questions (Chira, 1996).

How to Acquire Additional Relevant Skills

The applied developmental scientist venturing into the policy world can gain relevant experience through a variety of channels—some within the academic community, others outside,
in interdisciplinary graduate programs and in real-world policy settings.

**INTERDISCIPLINARY TRAINING**

The applied developmental scientist's activities may require skills from several disciplines, including psychology, demography, political science, economics, and sociology. To this end, various interdisciplinary research centers have created training opportunities for the interested student to acquire broad-based proficiencies in different disciplines. Some institutions provide for the student to earn concurrent or combined research and professional degrees (Box 1).

**BOX 1**

Concurrent and Combined Degrees

- The University of Alabama at Birmingham offers a concurrent program in developmental psychology and maternal and child health, whereby the student develops the skills to put “research into practice” in a public health agency and earns a master's degree in public health and a Ph.D. in developmental psychology.

- The University of Nebraska at Lincoln offers predoctoral and postdoctoral programs in psychology, mental health law, and policy. Predoctoral students may pursue a master's degree in arts or legal studies (M.L.S.), or a J.D. or Ph.D. Postdoctoral scholars typically complete an M.L.S. degree. The psychology, mental health law, and policy programs are NIMH-funded positions geared toward students with mental health law interests.

Others offer flexibility in program planning that allows the student to gain expertise in a range of disciplines (Box 2). Still others may encourage interdisciplinary training by providing courses that cut across programs or by granting a leave of absence so students can gain experience in a related field.

**BOX 2**

Alternative Curricula

- The Irving B. Harris Graduate School of Public Policy Studies offers year-long fellowships in child policy which build on previous graduate training by providing experience in policy analysis and management, leading to a master's degree in public policy.

- In the Pew Health Policy Program at the Institute for Health Policy Studies, University of California, San Francisco, postdoctoral and mid-career scholars receive multidisciplinary training through a curriculum in health policy and supervised work within an ongoing health policy research project.

**REAL-WORLD EXPERIENCES**

Real-world experiences serve the emergent applied developmental scientist in a number of ways: by affording opportunities to “test the waters” and explore different policy areas, by introducing and fostering the learning of the skills most valued in policy settings, and by providing a “foot in the door” to long-term policy work. Gaining real-world experience with a well-versed mentor in a relevant setting is invaluable to the student aspiring to do applied work.

Voices of experience. Several of our “informants” reported that while their graduate training gave them a critical grounding, they benefited greatly from on-the-job training. One such story came from Dr. Marty Zaslow, currently a consultant with Child Trends in Washington, DC. As she explains it, it was only when she began actively distilling a policy-related research literature as a staff member at the National Academy of Sciences (on children's response to the stresses of maternal employment) that she began to understand the kinds of research that were truly useful in the policy process. It was then too that she came to recognize the impor-
tance of translating and presenting findings in a way that is accessible to nonacademics.

Another example comes from Dr. Martha Moorehouse, senior research and policy analyst for the Office for the Assistant Secretary for Planning and Evaluation in the U.S. Department of Health and Human Services. Dr. Moorehouse recounted how mentors fostered her interest in the intersection between work and family life, but she credited her experiences as an SRCD Executive Branch fellow in the Administration for Children, Youth, and Families with providing her with some of the public administration and policy skills needed to bridge the gap between research and policy. She also emphasized the importance of gaining experience with program intervention, i.e., the implementation stage of policymaking. That kind of experience, she maintained, is invaluable if connections between knowledge and practice are to be made.

Dr. Mary Larner, issue editor of The Future of Children, published by the Center for the Future of Children at the David and Lucile Packard Foundation, recalls seeking real-world applications for her graduate training in human development; she worked for several years as a direct provider of early child care services, then as a research associate at the High/Scope Educational Research Foundation focusing on family support. Later work conducting policy analysis in the area of early child care and education at the National Center for Children in Poverty kindled her interest in using research as a tool to inform and shape policy. Currently, Dr. Larner combines her academic skills, her field-based service delivery experiences, and her knowledge of policy analysis in her work as an editor of a foundation-based journal created specifically to influence child policies. She draws heavily on her research background to critically analyze and evaluate the scientific rigor of studies on specific policy-relevant topics. Then she synthesizes and translates significant findings in a way that is comprehensible and useful to audiences that may lack technical expertise, such as policymakers, legislators, practitioners, and other professionals in the public and private sectors.

Judging from the experiences of those we interviewed, we conclude that practical work experiences that build on graduate training provide the best preparation for careers that combine research and policy. Such experiences can be sought through formal and informal avenues. The formal route provides the advantage of entering an existing infrastructure which may facilitate a later transition to policy-related work; at the same time, access can be highly competitive. A more informal route may lead the applied developmentalist to a tailored position fit to his or her particular expertise and interests; at the same time, locating such a situation requires considerable initiative.

Formal opportunities. Although formal programs are limited, many scholars have received their early experiences through such formal internships and fellowships (see Appendix). While some programs are more general, several are tailored specifically to child and family policy. Most offer some formal curriculum—e.g., orientation to the policy arena, seminars, and mentoring. They are located in both the public sector—at federal, state, and local levels (Boxes 3 and 4)—as well as in the private sector (Boxes 5 and 6 on page 10).

Informal opportunities. Participating in informal settings, e.g., working in a local social agency, school setting, political campaign, can round out and fill in the gaps between formal training opportunities. Although entry level situations are typically low-paying, if not volunteer, informal experiences can afford valuable exposure to policy-related activities.

**Alternative Career Paths for the Applied Developmental Scientist**

Scholars with expertise in applied developmental science have found professional niches in a wide range of settings—in foundations, in for-
profit and not-for-profit organizations, in state and local government, and within universities. A recent follow-up of 60 Congressional Science and Executive Branch fellows sponsored by the Society for Research in Child Development since 1978 (under the American Association of the Advancement of Science) found more than half employed in nonacademic settings. These run the gamut from the Carnegie Foundation, to the Child Welfare League, to the New York State Housing Bureau, to NICHD, to the House Ways and Means Committee. Some occupy positions...
Such settings offer abundant opportunity to practice applied developmental science.

**Foundations**

Early philanthropic foundations arose in part out of an interest in using science to identify and eliminate the causes of social ills (Cahan, 1986). Foundations whose mission is to improve the well-being of children and families rely on a strong knowledge base, provided in many of the larger foundations by staff members with developmental training and/or technical research expertise (Zervigon-Hakes, 1995). Foundations also play a major role in fostering within university units that are expressly devoted to policy-related research and training, e.g., the Irving B. Harris Graduate School of Public Policy Studies at the University of Chicago and the Center on Children, Family and the Law at the University of Nebraska. (Thomas, 1996).

**BOX 5**

**Private Sector Support for Young Scholars**

➢ The Center for Law and Social Policy’s Research Fellows Program in Washington, DC, targets recent college graduates contemplating law school or graduate training related to family policy, providing them with practical experiences, such as monitoring congressional hearings and preparing newsletters and reports.

➢ The Jane Addams Fellowships in Philanthropy at the Center on Philanthropy at Indiana University provide recent college graduates intensive study of the theory and practice of philanthropy, as well as opportunities to engage in the nonprofit arena within or outside the Center.

➢ Through the Brookings Institution’s Research Fellowship in Governmental Studies, doctoral candidates conduct policy-relevant research related to their doctoral dissertation. Fellows have access to data and consultation with senior staff members at the Institute and to other policy opportunities in Washington.

➢ Through the Families USA internship program, undergraduate students and recent college graduates work in a variety of media, governmental affairs, and field settings. Media interns, for example, monitor news broadcasts, write “Health Facts” (a column for nationwide publication), and assist in the preparation of press alerts and conferences.

**BOX 6**

**Private Sector Support for Advanced and Mid-Career Scholars**

➢ The American Psychological Association (APA) oversees internships offered by APA and the Society for the Psychological Study of Social Issues. Graduate students and postdoctoral scholars work in the APA Public Policy Office, participating in legislative and advocacy work such as preparing testimony and briefing materials or analyzing social policies.

➢ Child Trends’ Scholars in Washington Program aims to increase interaction between scholars and federal policymakers working in areas related to children, youth, and families. Early- and mid-career scholars work on their own research and joint projects of mutual interest with Child Trends staff.

➢ The Annie E. Casey Foundation’s Children and Family Fellowship supports mid-career professionals while they work on projects, engage in field experiences, interact with Casey Foundation staff, and participate in seminars at the Robert F. Wagner Graduate School of Public Service at New York University.
ties between academic research and the policymaking process. Several foundations (William T. Grant Foundation, Foundation for Child Development, and Ford Foundation, to name a few) serve as hubs for connecting researchers, policymakers, and program practitioners. As Dr. Lonnie Sherrod, vice-president of programs for the W. T. Grant Foundation, states, “We try to bring research information to the policy table and bring the needs and questions of the policy arena back to the research community.”

Foundations often anticipate the policy horizon and promote needed research. For example, in the late 1980s a set of interventions for mothers and children emerged (e.g., New Chance, JOBS Child and Family Outcome Study, Teen Parent Demonstration). These interventions represented different approaches to helping families move from welfare to work through the provision of supports for children (e.g., child care) as well as supports for parents (e.g., parenting classes, job training). A group of foundations, including the Foundation for Child Development, the W. T. Grant Foundation, Smith Richardson, and the Rockefeller Foundation, viewed these interventions as a new genre of services for families and promoted study of their impact on mothers and children. The foundations seized the opportunity to learn about how to most efficiently glean information from these large-scale, interdisciplinary studies that combine survey methods with smaller, embedded studies of parenting and children’s development. One foundation took the lead in initiating formal discussions among researchers and other interested foundations to identify the questions most in need of further investigation and to promote funding for evaluation.

Foundations also support the dissemination of research findings beyond the academic community. For example, the David and Lucile Packard Foundation established its own journal entitled The Future of Children, geared to audiences of national leaders, policymakers, practitioners, and other professionals. Some foundations fund organizations that inform the voting constituency, such as National Public Radio. Others fund organizations that provide information, set directives, and propose projects for governmental bodies, such as the National Health Policy Forum, the National Governors’ Association, the National Conference of State Legislatures, and the National League of Cities. Still others fund advocacy organizations, including state and local child and antipoverty organizations that distill research for public use by lobbyists, lawmakers, and others.

The Annie E. Casey Foundation supports information dissemination groups that track and analyze policy and applied research information. The Carnegie Task Force on Meeting the Needs of Young Children exemplifies another strategy whereby the foundation assumes the responsibility of convening a task force and disseminating resulting reports (Carnegie Task Force on Meeting the Needs of Young Children, 1994).

“Think Tanks”

Organizations that are independent of both academia and government, and which conduct policy analyses and policy relevant research, are typically referred to as “think tanks.” Examples include the Search Institute, located in Minneapolis; the Families and Work Institute, based in New York City; and the Manpower Demonstration Research Corporation (MDRC), located in both New York City and San Francisco.

Often dedicated to a particular issue (e.g., poverty, race, sociodemographic trends) or a particular population (e.g., youth), think tanks represent another venue where developmental training is useful. Although some of their activities may resemble those pursued by academicians, such as grant-writing, conducting research, and presenting and publishing results, think tanks are likely to also be engaged in translating findings for professional and lay audiences, designing and conducting evaluations for community-based organizations, and fostering collaborations and discussions among groups regarding programs, research, and policy, all with the overriding goal of making information
more accessible. Although these organizations may provide excellent opportunities to conduct both basic and applied research, they are primarily funded through “soft money” and thus lack the security of an academic setting.

The Search Institute has a broadly defined mission of bettering the lives of children and youth. Examples of its recent activities include conducting a statewide survey on the features of communities that help build resiliency in youth, evaluating the national 4-H program, and organizing a pre-conference session on community research and the implications for adolescents at the Society for Research in Adolescence’s recent meeting in Boston.

The Families and Work Institute focuses on the relation between work and personal life, and has most recently conducted a study on the quality of family child care. Currently it is heading a public education campaign targeted at understanding the first years of life; it is also conducting the second stage of a longitudinal study of the changing American workforce.

MDRC designs and field-tests education and employment programs that target disadvantaged youth and adults. It seeks to improve public policies and programs by providing policymakers and program practitioners with research demonstrating the effectiveness of social programs. MDRC is currently evaluating the Job Opportunities and Basic Skills Training (JOBS) program established by the Family Support Act of 1988, as well as several other welfare-to-work policies, including an early cross-state evaluation of time-limited welfare implementation.

**Local, State, and Federal Governmental Organizations**

Local, state, and federal governments differ in their purpose and functioning, and these differences afford a variety of career options within government. Federal policy, compared to state or local policy, focuses on the level of investment rather than on how to adapt a policy to particular constituents. Thus, the federal policymaker must wrestle with questions like: Should money be spent at all? To whom should it go first? The Office of Planning and Evaluation at the Department of Health and Human Services provides guidance to the secretary of DHHS on policy development and evaluation within the full range of human services, including child and youth policy, economic issues for families such as welfare, health policy, and long-term care and disability.

At the state and local levels, the policymaker is more likely to be engaged in “fine tuning” an already existing federal or state policy. Such activities may include developing and selecting the most appropriate program for constituents, e.g., whether one curriculum or another is to be used, or reacting to or planning for federal policy changes. The focus is on implementation.

This distinction between local, state, and federal roles is becoming increasingly important as the federal government downsizes and as jurisdiction over social services, such as welfare, is being shifted from the federal government to the states. New career paths may open up to accompany the changes. With increased flexibility afforded by new block grants, states may well find themselves in need of expert advice from those who can help identify implementation and evaluation goals—i.e., what questions to ask, which data are most realistic and valuable to collect, and how information can enhance states’ effectiveness.

Developmental scientists have a variety of potential opportunities to apply their skills in local government agencies. In 1991, for example, Minnesota established a governmental commission called Action for Children that functioned under the auspices of the state planning agency. Similar to the National Commission on Children and its report Beyond Rhetoric (1991), Action for Children conducted a statewide survey of the needs of children and families and published its findings in a report entitled Kids Can’t Wait: Action for Minnesota’s Children (1992), and made recommendations to the state aimed at strengthening opportunities for children and families. Another example is Agenda for
Children Tomorrow (ACT) of the Administration for Children's Services of the New York City mayor's office. This initiative focuses on research-based program planning, design, and implementation to enhance neighborhood-based family and children's services.

Some Cautions

The path between the world of research and the world of policies and programs tends to be indirect (Hanushek, 1990). According to our informants, moving between research and policy settings can be far from smooth. Lines of communication between researcher and policymaker are often tenuous; even when a researcher is called upon to give expert testimony before Congress, the actual effect of such input is difficult to measure. All too often the academic and policymaker occupy separate worlds, with little cross-fertilization. They may view each other with misapprehension or even suspicion, each being unfamiliar with the content, language, communication style, and demands of the other’s discipline. Perhaps we can not expect to change the policymaker, but we as developmental scientists can break through these barriers by expanding our interactions with policymakers and by augmenting our learning in relevant areas, e.g., in law, economics, political science, etc.

The academic who wishes to be active in both academic and policy spheres faces significant challenges. To begin with, neither setting inclines to offer rewards for participation in the other. It is suggested that the goal of bridging the two may be best accomplished by first establishing oneself as a solid researcher before attempting to enter the policy world. Having credentials and some public identity as an authority in a particular discipline will make it easier to enter the policy arena. In the reverse, for one who intends to return to academia, it may be important not to become too entrenched nor to stay too long in a policy setting. Positions that allow for or require continued publishing, contact with academic colleagues and students, and proximity to the active practice of social science can protect against possible loss of credibility.

Creating Training Opportunities: Suggestions for Academic Departments

At the same time that the field of applied developmental science is becoming more visible (Fisher, Murray, et al., 1993; Zigler, 1980), students perceive the prospects for traditional academic careers to be dwindling. As a result, academic programs face increasing demands to provide students with course work and experiences that will prepare them for alternative careers. The response is varied (Fisher & Koocher, 1990). Some universities have already created separate programs in applied developmental science or applied specializations within existing programs (see Fisher, Rau, et al., 1993; Fitzgerald, Abrams, Church, Votruba, & Imig, 1996). Others are just beginning the process of making applied training available to undergraduate and graduate students.

Without requiring massive restructuring of teaching or programmatic requirements, departments can take some preliminary steps toward meeting the needs of students with applied interests. Steps will likely involve exploiting and redefining current opportunities as well as creating new ones. Listed below are some suggestions, from the perspective of those still in training, for how academic departments may foster applied developmental research, course work, and experiences. These recommendations reflect increasing degrees of commitment and formal structure on the part of students and academic departments.

Discussion groups. Students themselves can arrange informal groups to discuss current events of interest to developmental scientists, relevant courses, possible training and internship opportunities, and ways for sharing developmental knowledge with their local community.
Invited speakers. Expert talks or lectures, in informal bag lunches or more formal colloquia, can expose students to applied developmental issues and methods.

Volunteer experiences. Students can volunteer, as individuals or as a group, to share their developmental knowledge and skills with community or governmental organizations. One might, for instance, help develop activities for a local day care or facility for the elderly, serve as a volunteer guardian ad litem or court-appointed special advocate for children involved in child abuse and neglect cases, or serve as consultant to private or governmental organizations that affect the lives of children and families, e.g., to a school, a children's museum, or local legislator.

Field experience courses. Giving course credit for field experiences is an effective way to help students broaden their experience in the community. Such courses may range from community service work to more specialized research or evaluation projects designed to meet the needs of a particular organization or program.

Internships within other institutions. Departments can alert students and encourage them to participate in applied developmental training experiences offered in other settings outside the university. Source books and world wide web sites listing a wide range of opportunities can be found in the Appendix.

Inter-departmental courses. Students can be encouraged to take relevant courses in other departments, for example, in sociology, law, public health, social work, public policy, family studies, political science, statistics, economics, and even less obviously related disciplines such as geography, architecture, engineering, and marketing—any of which may be useful to the well-rounded applied developmental scientist.

Formal curricular offerings in-house. Departments of psychology may establish applied developmental courses within the department, such as a seminar focusing on research and policy, or courses designed specifically to provide training in policy, communications, ethics, methods, or statistics. Instructors for such in-house courses should ideally come from a range of disciplines, so that students are exposed to different perspectives.

Research projects and theses on applied developmental issues. In addition to providing course work and field experiences, departments may encourage students to focus their master's and dissertation research projects on applied developmental issues; they may consider accepting theses which analyze existing data derived from community or governmental research projects or well-designed program evaluations.

Funding and grants. Funds from within the university or from private foundations or corporations may be sought specifically for the purpose of supporting applied developmental students, applied developmental research, and field placements.

New faculty. Departments may seek to hire faculty with interest and expertise in applied developmental science to teach and supervise students with like interests. Faculty with established ties to the policy world stand to offer important guidance to students with applied interests.

Not all of the options will be appropriate for every department. At least some, however, are likely feasible within most departments and may go a long way toward satisfying the curiosity and needs of students interested in pursuing careers in applied developmental science.

**Conclusion**

Recent evidence suggests that the field of developmental science is itself developing, growing to include an emphasis on the application of developmental principles and methods to practical social problems. It can be seen in the national dialogue regarding a set of training criteria to be used by graduate schools interested in forming an applied developmental science program or an applied specialization within a department (Fisher, Murray, et al., 1993). It can be seen in the actual formation of such training...
programs and specializations (Fisher, Rau, et al., 1993; Fitzgerald et al., 1996). And it can be seen in the newly created forum for the dissemination and debate of current research in this growing field, a journal entitled Applied Developmental Science scheduled to release its first issue soon. The attention to and formalization of graduate training, and the launching of a professional forum for communication, suggest a growing recognition that applied developmental scientists can, should, and will play a greater role in addressing real-world problems.

While there are numerous settings in which our knowledge base of developmental science and scientific methodology may be brought to bear, having the opportunity to apply this knowledge within traditional policy positions may take some time. However, given the range of training options and the considerable variation in career opportunities highlighted in this report, developmental scientists who wish to use their skills toward improving the lives of children, youth, and families can follow many paths. As one of our experts said, “If you’re interested in social issues for children, it’s hard to not want to be in a context where you work on important social issues of our time.”
Locating training and career opportunities of interest in academic, government, nonprofit, and private settings can be challenging. Below are several resources to guide graduate students and junior faculty seeking information about opportunities across a variety of settings.

➣ For information about particular academic programs:

Peterson’s Guide to Graduate Programs in the Humanities and Social Sciences (Peterson’s Guides, 1995)—profiles child and family policy training at public policy schools, social work schools, and applied developmental science programs, and particular disciplinary associations such as the Association for Public Policy Analysis and Management (APPAM) and the Council on Social Work Education (CSWE).

➣ For information about organizations outside academia that are dedicated to policy, advocacy, and information dissemination regarding children and families:

Directory of Organizations Concerned with Public Information of Relevance to Children (Rosenberg & Sherrod, 1994).

A Resource Guide to Careers in Child and Family Policy (Gordon & Chase-Lansdale, 1995) [Careers in Child and Family Policy, Harris School, University of Chicago, 1155 East 60th Street, Chicago, IL 60637, 773-702-6654]

➣ For information about congressional committees and executive agencies of particular relevance to children’s policy:


➣ For general information about federal and state governments:


➣ For information that can be located on the Internet. Listed below are World Wide Web sites that post specific job and internship opportunities in policy settings:

http://epn.org (The Electronic Policy Network provides links to various foundations, policy research centers, and advocacy organizations; the “Jobs” link on the EPN home pages lists job and internship information, and some individual settings post job opportunities on their web sites as well.)

http://qsilver.queensu.ca/~appanwww (The Association for Public Policy Analysis and Management includes a Job Bank of opportunities within think tanks, the government, and policy schools and institutes.)

http://www.usajobs.opm.gov (The Office of Personnel Management affords search-for-employment opportunities in the federal government, including students and summer positions.)

➣ To locate the web site of a particular setting of interest, try a web browser search of the Internet. See also the American Public Welfare Association’s links to state human services agencies:

http://www.apwa.org/statenew/statenew.htm and Policy Street’s links to a range of think tanks, advocacy organizations, associations, government agencies, and academic settings:

http://www.policy.com

➣ For specific information about the federal government:

http://www.house.gov (United States House of Representatives)

http://www.senate.gov (United States Senate)

http://watson.policy.net (CapWeb World Wide Web site)

gopher.cqalert.com (Congressional Quarterly’s gopher site)

➣ For a general introduction to policy aspects of cyberspace:

Washington Online (Maxwell, 1995).
References


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