Connecting the Science of Child Development to Public Policy

Aletha C. Huston

Abstract

The purpose of this article is to suggest some ways in which researchers can make their work more useful to policymakers. Policy research is more than “applied” research. It is designed to answer questions about what actions will or will not be effective in dealing with the problem studied, not just to understand the antecedents or consequences of development. A policy researcher asks what conditions that we can affect with public policy produce a change in development, and how do we bring about those conditions? Good policy research is based in theory. When strong theory and conceptual frameworks help to frame the questions, the results can be generalized beyond a particular program or issue, and they can contribute to our general knowledge about developmental phenomena. I am not arguing that other types of investigations lack value for policy—quite the contrary. Policymakers need knowledge about the conditions that affect children’s development to decide which aspects of behavior and which environments may be especially important to target. But this information is not enough. Policy research should also be concerned with identifying and studying policy actions.

The policy research lens focuses investigators’ questions on actions that policymakers can take to address social problems; it usually crosses disciplines; it includes assessment of costs, benefits, and efficiency; it leads investigators to use a range of rigorous methods (including, but not limited to, random assignment experiments) with particular attention to issues of causal direction and potential errors; and it frames questions and answers in terms that policymakers can use and understand. It makes us cautious about overinterpreting our data.

Investigators doing policy research try to reach the people making policy decisions with a plethora of research reports, press releases, public briefings, and personal contacts. More effective, but less frequent, are forums for two-way communication in which policymakers tell researchers what questions they want answered, providing guidance for research design as well as whetting policymakers’ appetites for learning about the results. Increases in graduate and postdoctoral training in policy research have brought more developmentalists into governmental and nongovernmental policy positions where their expertise can infiltrate science and research into the policy process.

Although we operate in a political and social zeitgeist that defines a limited set of policy options, scientists need to maintain some independence from current political agendas. Policy discussions in the US often use a discourse of investment in children, with the “profits” to come from their future economic productivity. As scientists concerned about child development, however, we have a responsibility to frame research and policy debates around the broad goals we consider important for children’s welfare—quality of life, having children who are healthy, happy, and free of want—and to be ready with good data when the window of opportunity opens for our science to inform policy decisions.
Jeanne Brooks-Gunn and I, along with SRCD, consider that there are at least two goals for this publication, *The Social Policy Report*. The first is to inform policymakers and others of important research information of relevance to pending policy decisions. The second equally important goal is to inform developmental researchers, especially members of SRCD, of needs for research given the present policy landscape for children and families. This issue by current President Aletha Huston addresses both goals but is especially relevant for SRCD members. I hope the membership will attend closely to this article and use it in graduate training classes.

Since my tenure at the William T. Grant Foundation, I have found it surprising that there are not more psychologists and child development researchers involved in policy making. After all, policies are at some level eventually about behavior change so it is not productive for child and family policy to be dictated by economists and sociologists. They of course have a critical role to play but no more critical than that of the psychologist. The overall point of this article is to explore how research can be more useful to policymakers. It is therefore directly relevant to researchers and not just to applied researchers because, as Huston points out, all research can have some relevance to policy. The article should also be useful to policymakers in helping them to understand different forms of research and how it can be helpful to their work.

This article is so rich that I want to list out every point as one that needs careful attention. Because I cannot repeat the full article in this short statement, I will address just a few points. The first point is the explication of different forms of research. Applied research consists of both policy relevant research and policy analysis; it is the latter where developmental researchers are sorely needed. The second point emphasizes the need for multiple methods; multiple methods can be especially convincing to policymakers when they converge on common findings. A third point is the need for varied designs. As McCall and Green argued in a recent *SPR*, the experiment is not the only method that can be used in research directed to policy. The final point I will highlight is that applied research is not atheoretical; applied research should always be driven by theory, but it can also serve to test theories and thereby fulfill some of the same goals as basic research.

I am delighted to have additional statements by two developmental scientists who have spent their careers “in the trenches” trying to make happen much of what Huston advocates. Robert Granger, currently President of the William T. Grant Foundation and formerly Senior Vice President of the policy research organization MDRC, and Deborah Phillips, Chair of Psychology and co-founder of the Center for Research on Children in the U.S. at Georgetown University and formerly Director of the Board on Children, Youth, and Families, NRC/NAS, offer valuable complementary statements.

I conclude by highlighting a final point. Huston mentions that “We might instead ask whether children are healthy, happy, and free of want”—instead of focusing on economic returns for example. This is an ideal for research policy connections for which we should continually strive. Brooks-Gunn and I are enthusiastic about this issue and hope it contributes to this lofty goal. We believe this article will become a classic in the research-policy literature.

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What are the implications of your research for policy and practice? Journal editors, newspaper reporters, and parents often ask this question. Many developmental scientists take on this challenge eagerly because they want their research to contribute to the welfare of children and families. At the same time, some policymakers have become more aware that research-based knowledge is needed to design solid and effective policies. At every level, they hold programs and policies to standards of outcomes-based “accountability,” which often means providing evidence that goals are being achieved. Despite this partial rapprochement between the two groups, child development research often misses the mark for informing policy, and policymakers often act on inadequate data. My purpose in this article is to suggest some ways in which we as researchers can make our work more useful to policymakers—and therefore make them more likely to seek, use, and respect what we offer.

My major thesis is that policy research needs to connect as directly as possible with the actions that policymakers can take. Policy research is more than “applied” research. Policy research means framing questions around issues that policy can address; using rigorous and multiple methods that inform policy; designing studies that produce information in a form that policymakers can use and understand; considering costs and relative benefits of different policy options; and being cautious about offering interpretations that go beyond the data or beyond the expertise of the investigator. Because getting policy research into the policy arena requires two-way interchanges between researchers and policymakers, I end with some comments about ways of promoting those exchanges.

**Framing Questions to Guide Action**

Any research may generate information that informs policy. We often distinguish basic research, which draws its questions primarily from theory or the desire to understand a scientific phenomenon, from applied research, which frames questions around understanding how current or potential social conditions affect the lives of children (Huston, 2002a). Applied researchers ask such questions as how are children affected by maternal employment? How does television violence affect child development? Applied research usually takes place in the messy, complex arenas of children’s natural environments rather than in the pristine laboratories preferred by basic researchers, but it is not necessarily atheoretical. When strong theory and conceptual frameworks help to frame its questions, the results can be generalized beyond a particular program or issue and they can contribute to our general knowledge about developmental phenomena.

Although applied research is often valuable for informing choices among policies or practices, much of it does so indirectly. For example, if children are affected positively or negatively by maternal employment, what are the policy options to address these effects? Applied studies that investigate these options are, in my opinion, most clearly “policy research.”

According to one definition, policy research is: “research on, or analysis of, a fundamental social problem in order to provide policymakers with pragmatic, action-oriented recommendations for alleviating the problem” (Majchrzak, 1984, p. 12). That is, policy research is designed to answer a question about what actions will or will not be effective in dealing with the problem studied, not just to understand its antecedents or consequences. Policy research often involves some reasonably direct assessment of one or more policies or programs. In the case of maternal employment, for example, one might study the effect of paid parental leave and/or quality infant child care on parents’ returns to work, family income, or child development.

Obviously, there is no clear line between direct
tests of policy and more indirect applied investigations, but using the policy research lens sometimes leads to qualitatively different questions and methods than one might use in typical applied developmental research. An applied researcher may ask what explains a phenomenon in children’s development. A policy researcher asks what conditions that we can affect with public policy produce a change in development, and how do we bring about those conditions? Several solid, large-scale investigations, for example, show that quality child care in the early years predicts cognitive and language development. These studies strongly suggest that improving quality enhances children’s development, but tests of policies and programs designed to improve quality offer more direct evidence about how much improvement might result, what benefits and costs might accrue, and how such improvements might be targeted (e.g., see Brooks-Gunn, Fuligni, & Berlin, 2003).

Even more useful to policymakers would be studies of how to improve quality most efficiently (i.e., at the lowest cost). In his annual report to the W.T. Grant Foundation (2005), Robert Granger points out that researchers are good at providing information about conditions that affect youth development (including the effects of good programs), but policymakers want to know how to create those high-quality programs in the real world. I am not arguing that indirect investigations lack value for policy—quite the contrary. We need knowledge about the conditions that affect children’s development to decide which aspects of behavior and which environments may be especially important to target. But this information is not enough. Policy research should also be concerned with identifying and studying policy actions. For example, some researchers have studied the relations of state variations in regulations for child care licensing to the average quality of care provided (e.g., Phillips, Howes, & Whitebook, 1992).

Crossing Disciplines

Costs and relative benefits. Policy is about money and politics—virtually all policy decisions are based partly on judgments (or guesses) about costs and benefits as well as on political ideology. Policy analysis is a subfield of political science, although it also exists as a separate area of inquiry, represented in schools of public policy, university-based policy research centers, policy research organizations, government units, and think tanks across the nation. Most of these organizations have a mix of disciplines, including economics, social work, sociology, education, evaluation, anthropology, psychology, and child development.

A strong interdisciplinary approach enriches policy research on children, but it also requires scholars to confront different fundamental assumptions. Children’s well-being is central for developmental scientists, but, for many policy analysts, it takes second place to other considerations (e.g., adult work and earnings) in such arenas as welfare and poverty policy. People from most disciplines agree on some fundamental goals of child policies: they should promote health and physical comfort; care by loving and consistent adults; intellectual and language skills; emotional well-being and mental health; positive relationships with adults and peers; and a sense of responsibility and morality (Huston, 2002b). Many developmental scientists stop there, believing that these goals need no further justification because they represent “good” outcomes for children.

But, economists ask about costs and benefits (see Foster, 2003, for a discussion of economists’ approaches to studying child development). The costs of unhealthy development, both short-term and long-term, often drive selection of goals and the choice of programs. The benefits of programs to counteract developmental problems are determined by cost savings. The WIC program that provides nutritious food for infants, children, and pregnant women saves money by reducing neonatal difficulties in the short run and improving children’s physical health and intellectual development in the longer run (Bitler & Currie, 2004).
Levels of analysis. Because most child development-mentalists are trained in psychology, we set goals and evaluate policies at the level of the individual, but other disciplines use aggregates, considering overall social benefits and costs. Currie’s (1997) four criteria for evaluating child policies illustrate an economist’s point of view. The first is efficiency. Assuming that we have a policy goal (e.g., increasing quality child care), which among alternative policies provides the largest gain in quality per dollar? For instance, would it be more efficient to reduce child/adult ratios or to hire teachers with more training? The second is investment. Are the long-term savings of a particular policy greater than costs? Several economic analyses following children who received early childhood interventions into adulthood, for instance, have demonstrated that every dollar spent on the intervention leads to benefits worth several dollars (the exact amounts vary) in added earnings, taxes paid, reduced costs for criminal behavior, lower welfare costs, and less need for special education (Karoly, Greenwood, Everingham, Hoube, Kilburn, Rydell, et al., 1998). The third is equity—whether the policy distributes resources fairly. Such programs as child care subsidies and WIC, which are not guaranteed to all of the eligible children or families because funding is limited, are not equitable by this criterion. The fourth criterion is unintended consequences. Do the policies encourage undesirable actions? Placing a low income threshold on eligibility for child care subsidies and health care may lead people to limit their earnings to avoid reaching a “cliff” that would reduce their total income.

Comparing policies. Because dollars are always limited, policies are not evaluated singly but in comparison to one another. If a clear goal exists, then a policy researcher might ask which policy is most likely to achieve the goal at the lowest cost. Is it better to invest in income supplements for families or direct child care interventions to improve school readiness? Does investment in early childhood bring greater benefits than investment in programs for adolescents?

Policy analysts are interested in the effects of a change from some existing condition rather than a conclusion about the underlying process. When developmental scientists discuss how much the quality of child care contributes to some developmental outcome (e.g., achievement), they usually assume that the goal is to estimate what proportion of the overall variability in development is a consequence of child care quality. Our underlying conceptual model poses a hypothetical situation in which children who are identical in other respects are distributed across the whole range of quality—how much would children in different levels of quality vary in performance?

People from most disciplines agree on some fundamental goals of child policies: they should promote health and physical comfort; care by loving and consistent adults; intellectual and language skills; emotional well being and mental health; positive relationships with adults and peers; and a sense of responsibility and morality.

But, the policy questions are different: How much would an improvement in child care quality over the level currently available lead to improvement in children’s achievement? That is, taking the current average level of quality as a baseline, what would be gained by increases in quality? How much increase in quality would produce a socially significant increase in cognitive development? How much would different increments in quality cost? How much improvement in cognitive development would result from different amounts of investment?

Rigorous and Multiple Methods

Policy researchers worry a lot about causal direction and the magnitude of effects. Most “real world” research is essentially correlational; for example, language development of children who are placed in high-quality child care is compared with that of those in low-quality care. Researchers from all disciplines are aware of the pitfalls of this approach. Parents who use high-quality
child care are different from those who use low-quality care; they are better educated, have more money, and may be more concerned with their children’s early education. Children in high-quality care may start out with better skills as a result of genetic or prior environmental influences. Moreover, children may affect quality as well as being affected by it. A cheerful, verbal child may elicit more responsive and stimulating caregiving than one who is chronically unhappy or reticent. Although we can measure some of these parental and child characteristics and control for them statistically, it is logically impossible to exclude all unmeasured differences or to detect causal direction with certainty in a correlational study. Therefore, this design does not allow us to be sure that the child care quality, and not some other factor, caused the language learning. This issue of causal inference has led some economists to discount the results of applied research conducted by developmental scientists on such topics as child care (e.g., Blau, 2001).

Is random assignment the gold standard? Because of these concerns, many policy researchers and policymakers believe that a random assignment experiment is the “gold standard” research design. People who are randomly assigned to a treatment or control group differ only on whether they received the experimental policy (e.g., early intervention vs. no intervention), so experiments provide unassailable evidence of causal effects. We can assert with confidence that the policy caused the difference between the groups. Indeed, random assignment experiments have produced valuable information; for example, they have demonstrated the efficacy of early intervention educational programs for children from economically disadvantaged homes. Findings from the Abecedarian and Perry Preschool Projects have had widespread influence on decisions about early childhood education programs (Brooks-Gunn, 2003).

In an earlier Social Policy Report, McCall and Green (2004) argue, however, that a range of methods should be used to understand policy issues. Although the random assignment experiment is an excellent tool, it has some weaknesses. Experiments allow us to conclude that the policy caused the differences between program and control groups, but they are less useful for determining why the effect occurred or did not occur—what processes were involved. The process of assigning people by lottery to a program or control group can affect both groups. Control-group members may feel angry, disappointed, or motivated to find other programs, leading them to behave differently than they might otherwise or to change the way in which they use other existing options. The treatment design may “leak”; some people in the treatment group will not participate in the assigned program, and some in the control group will find alternative programs. In the recently released national random assignment study of Head Start, for example, almost half of the control children were enrolled in Head Start centers or in other group programs that were not participating in the study (U.S. Department of Health and Human Services, 2005). The analyses can adjust for these events, but the results need to be interpreted with this information in mind.

I agree with those who argue that there is no “right” method; approaching a problem using multiple methods produces different types of information and gives one more confidence in the conclusions because their strengths and weaknesses are often complementary. Economists have created and refined a variety of statistical methods designed to remove bias and allow inferences about causal relationships from nonexperimental data (e.g., see McCall & Green, 2004; Angrist, Imbens, & Rubin, 1996). In the last 20 years, a number of random assignment and longitudinal studies of welfare and employment policies have included surveys of large samples accompanied by intensive, open-ended ethnographic interviews and observational data collected on small groups. These qualitative approaches provide rich information about parents’ and children’s experiences with welfare systems, child care subsidies, and other policies intended to serve low-income families; they offer important insights into the reasons for some of the quantitative findings; and they are a source of hypotheses to be tested in subsequent surveys (e.g., Gibson-Davis & Duncan, 2005; Lowe & Weisner, 2003; Scott, Edin, London, & Mazelis, 2002).

Preventing Type 2 error. Much of the controversy about random assignment vs. other designs revolves around preventing the erroneous conclusion that an effect exists when in reality it does not—“Type 1 error.”
But in the world of policy and practice, the opposite error can be equally dangerous. Serious consequences can ensue when we fail to demonstrate a phenomenon that does truly exist. To avoid this “Type 2 error,” it is especially important to have documentation that an intervention was well-implemented. Good evaluation research begins with studying implementation—is the program actually being delivered in the way it was intended? How many people received how much of the intervention? For example, in the Infant Health and Development Program, infants were randomly assigned to a treatment group that was offered high-quality child care. Comparisons of the experimental and control groups showed little lasting effect, but not all children in the experimental group attended child care consistently. Those who participated regularly (a “high-dosage” group) had significantly higher scores on an intelligence test at age 8 than a matched group of children in the control group (Hill, Brooks-Gunn, & Waldfogel, 2003).

It is critical to have the statistical power to detect a real difference if it exists. If the real effect is small, fairly large samples are needed to show that difference. And it is essential to have good information about what the control group experienced. As I already noted, a control group is not “untreated”; it is in a different treatment. The results inform us about the comparative value of the planned treatment vs. another set of programs and experiences.

Generalizability. In many countries, public policies for children and families are universal, but, in the United States, most of them are targeted to children with economic or other forms of disadvantage (e.g., disabilities). The ethnic and racial composition of the U.S. population is becoming more heterogeneous, particularly among low-income families. The percent of U.S. children classified as Hispanic and Asian is increasing, with corresponding decreases in non-Hispanic whites; by the year 2020, approximately 1/3 of U.S. children will be Hispanic or Asian/Pacific Islander (U.S. Department of Health and Human Services, 2004). Both Hispanic and African American children have much higher rates of poverty than do non-Hispanic whites. These demographic trends are important for basic developmental research, which often fails to investigate developmental processes across a range of cultures and economic conditions, but they are especially critical for policy research.

Ethnic and cultural diversity requires extra care in sampling and raises difficult issues about finding measures that are appropriate to the cultures and languages of the people being studied. Developmental scientists can contribute to proper measurement in policy studies; we are trained to identify valid and reliable ways of measuring family process and children’s development, even within the time and money constraints of a large survey. In the last several years, some developmental policy researchers have devoted a great deal of energy to improving the quality of surveys by assembling, documenting, and disseminating information about child indicators and measures that can be used in policy-oriented research (e.g., Moore & Lippman, 2005). Many of these points about methods apply to research in general; they are just good research practice. But some practices are specific to making the information generated useful for policy research.

**Producing Useable Information**

*Causes that can be addressed by policy.* Research is most likely to affect policy if it addresses questions and organizes the answers in ways that policymakers can put into action. Causal variables that are amenable to public policy influence are most likely to get their attention. For example, child care quality can be defined by child/staff ratios, group size, and caregiver training, which can be regulated more easily and efficiently than indicators based on direct observation of processes in child care environments. Analyses of the NICHD Study of Early Child Care show that these regulatable features of child care quality predict children’s cognitive development and that they operate through their associations with classroom processes (NICHD Early Childhood Research Network, 2002). The next step might be to test the effects of changing regulations on classroom processes and child development—a more direct form of policy research. For example, Florida adopted more stringent criteria for adult/child ratios and caregiver training in the early 1990s, offering a “natural experiment.” Centers varied, however, in compliance with
Commentary

Robert C. Granger, Ed.D., William T. Grant Foundation

Aletha Huston works productively at the intersection of research and policy. Her essay in this SPR is a welcome contribution to the thinking about how researchers can make their work more useful and more likely to be used. I particularly like her thoughts about the importance of causal questions, the utility of mixed methods, and the need for researchers to communicate across roles with policymakers and practitioners.

I want to expand on three things that Huston implies but not does not explicitly say: the best policy research demands theory; it is enough to become a terrific researcher as opposed to a half-baked policy person; and there are some setting-level questions that need more attention. Each of these issues is a focus of discussion at the William T. Grant Foundation, and readers are invited to share their thoughts at info@wtgrantfdn.org.

The best policy research demands theory. Many echo Kurt Lewin’s admonition that there is nothing so practical as a good theory. Add me to the list. All public policies are meant to influence human capacities or behavior. As such, they are predicated on implicit or explicit theories about the social world. At the Foundation we have decided that it is not good for science or application to conceptualize a continuum running from basic to applied research. Rather, we accept Don Stokes’ formulation in Pasteur’s Quadrant that the best social science is simultaneously theoretically rich and also inspired by societal needs and questions of use.

This means that we do not fund atheoretical work, no matter how important the policy issue, how robust the intervention, or how elegant and robust the study’s sample, design, and methods (although we look for all of these, too). One reason we take this position is that researchers, practitioners, and policymakers are always interested in the generalizability of findings. You cannot gauge this without theory.

For example, many people want to use market forces to improve educational achievement. But current studies of vouchers and charters contain little theory, and therefore few measures, on how the characteristics and practices of families, schools, or school systems interact with these policy levers. Without theory to guide and be tested through measurement, analysis, and replication, we will be left with little insight about how and why estimates of effects on students vary across studies, as they inevitably will. We will also have little ability to build a coherent body of fundamental and practical knowledge as political interest and research funding move from one specific policy option to another.

It is enough to be a terrific researcher. There is a push in the research community to “translate” one’s work for people who might want to use the findings, and to end every paper with thoughts about the implications of empirical work for policy or practice. Huston’s article does not argue for this sort of thing, but she acknowledges that these expectations exist.

I encourage a different formulation. That is, the reason researchers should spend some time within policy and practice settings, talking with and observing the actors, is so they can do better research and discuss it more clearly—not so they can tell policymakers or practitioners what to do.

An anecdote will help me make my point. Huston and I were members of the MacArthur Network on Successful Pathways Through Middle Childhood. The capstone meeting of that network was in Washington, and each of the major network projects did presentations, complete with policy implications. One of the discussants was Charles Gershenson, research head for the Children’s Bureau in Health and Human Services, who has since
retired. After two days, Gershenson had heard enough (although I will not get the quote just right, you will get the idea): “For two days, I have been listening to your discussion of how methods and findings are so complicated. But this does not dissuade you from then making policy implications. The chutzpah astonishes me. You think research is complicated? Why don’t you try something really complicated, like policy?”

As Huston says, it is important and useful for researchers to spend time throughout the research process interacting with and learning from people in other roles. If you are interested in family processes, spend time with families. If you are interested in improving schools, spend time in schools. If you want advocates and policymakers to shape and use your work, develop ongoing relationships with them. As a result, theories will be richer and questions more on-point. But let the people in other roles do the “translating,” as they inevitably will. The researcher’s job is to deliver careful science on important questions, and then write and talk clearly about the results.

**Policy research needs attention on social settings.** One final point. As Huston notes, child developmentalists often conceptualize work at the individual level. We give an almost autonomic nod to the ecology of development, but our models, measurement, and research are uniformly weak at the level of social settings. Because policies are usually assumed to influence individuals in ways mediated by settings, this is a major limitation. Fortunately, there are some signs that this may be changing.

In a recent *SPR*, Pamela Morris, Lisa Gennetian, and Greg Duncan examined the pathways between welfare and employment policies and child well-being across seven studies. Morris and her colleagues found that when changes in policy created effects for children, those effects varied by child age and were jointly due to increased participation in center-based childcare and the sequelae of increased family income. These insights were possible because the team benefited from a consistent conceptual framework and common measurements repeated across the studies. But such work is uncommon, and even this example tells us little about how the policy interventions changed family processes, or how they influenced the child’s experiences through childcare. What was it about income that was consequential? How did income lead to changes in a social setting that mattered for the young children? What was it about care that seemed to make a difference? With that knowledge, could public policy be more efficient, equitable, or cost-effective?

At the William T. Grant Foundation, we get excellent proposals for descriptive and experimental studies that will advance theory and practice regarding individual change. We get almost no proposals that will do the same for organizational or other forms of setting-level change. This suggests that as a field we are learning little about the aspects of settings that policies need to change to improve youth development. We are also learning little about the conditions under which setting changes occur and are sustained. These are questions where careers are waiting to be made.
the regulations. Centers that came into compliance with training, education, and ratio regulations had improved quality, but those with lower ratios also had reduced enrollment of children with subsidies (Howes, 1997; Oldham & Yoon, 2005).

**Thresholds.** Policymakers often want thresholds rather than continua. They are less interested in knowing that “more is better” than in knowing “how much is good enough?” What should be the minimum requirement? In the case of child care, for example, is there a threshold beyond which increases in quality do not yield strong additional improvements in academic performance? Is there a point of diminishing returns? Is there a level below which children are at serious risk? Thresholds for “outcomes” are also useful. For example, how many children in a group demonstrate significant developmental delay or serious behavior problems? Is there a minimum level of basic skills that defines school readiness?

Answering these questions means examining data categorically or using other means of detecting nonlinear relations of quality to outcomes as well as selecting benchmark criteria for outcomes. Many measures of children’s development do not lend themselves to these categorical decisions, but some do. For instance, the Child Behavior Checklist, which is widely used to measure children’s behavior problems, has cut-off scores for risk and for clinically serious behavior problems.

**Effect size.** How large is the effect? Is it socially significant? It is not very helpful to describe a correlation coefficient, beta, or percent of variance accounted for. It is more useful to show differences between groups in units that an ordinary person can understand. In the Head Start Impact Study, test results were shown as the difference between each group and the national norm—for 3-year-olds, the control group scored –7.6 points and the Head Start group scored –4.0 points below the norm. A difference of 3.6 points has little meaning, but a 47% reduction in the achievement gap makes an impression (U.S. Department of Health and Human Services, 2005). In the Abecedarian study of an intensive early intervention, the fact that 12% of children in the intervention group were in special education in their first ten years of school, compared to 48% of controls is readily understood (Ramey, Campbell, Burchinal, Skinner, Gardner, & Ramey, 2000). Some states and localities have cutoff scores defining eligibility for special services (e.g., a test score below 90); it would be useful to report effects on the percent of children whose scores fall below this level.

**Interpreting Results**

In a 2003 SRCD symposium on translating child and family research to policymakers, three scholars who work at the intersection of research and policy agreed on one message: Be careful about overinterpreting your data. They pointed out that policymakers are now bombarded with “data” from advocates on all sides of the political spectrum; much of it is low quality. To stand out from the crowd, it is important to stick close to your scientific results and to be cautious about making policy recommendations that go beyond your research (Bogenschneider, Moorehouse, & Moore, 2003).

The investigators in the NICHD Study of Early Child Care (I am one of them) learned this lesson the hard way when we presented a symposium describing the relations between early child care experiences and children’s development in the preschool years at the 2001 SRCD Biennial Meeting. Reporters took little notice of the finding that high-quality child care predicted high levels of cognitive and language development (NICHD Early Child Care Research Network, 2003b), but they made headlines about the finding that high amounts of care predicted teacher reports of behavior problems in child care and kindergarten (NICHD Early Child Care Research Network, 2003a). Controversy erupted like flames fed with gasoline as scholars, pundits, and the press argued that mothers should get out of the work force; we should offer paid parental leave; we should improve the quality of infant child care; caregivers...
should get better training in behavior management; or that the effects were so small that there was no need for new policies.

Part of the problem was that this study was not designed to investigate policy, so the results did not provide clear guidance about what policies might mitigate the problem (Langlois & Liben, 2003). The study did not test the effects of family leave policies, reductions in maternal employment, policies to increase child care quality, or methods for reducing behavior problems. It did not address the possible unintended consequences of proposed policy changes; for example, the possible negative effects of lowered family income or maternal dissatisfaction if mothers reduced their employment (Newcombe, 2003). This research is valuable for understanding developmental processes and identifying problems to be solved, but more policy-focused research would be required to determine what policies would address behavior problems associated with child care most effectively.

Researchers also need to be cautious about the “intervention fallacy.” The paths by which social conditions (for example, poverty) predict children’s behavior in correlational analyses are not always the best targets for interventions. The literature on parenting and poverty illustrates this point. It is well-documented in longitudinal investigations that poverty predicts the home environment and parenting processes (e.g., low levels of intellectual stimulation, low warmth, use of harsh punishment) and that these parenting practices partly account for the higher rates of academic deficit and greater frequency of behavior and adjustment problems for children living in poverty (McLoyd, 1998; Yeung, Linver, & Brooks-Gunn, 2002). Yet, the most successful interventions for children in poverty involve direct educational services for young children, sometimes in combination with home interventions (Magnuson & Duncan, 2004). Several large-scale experiments designed to increase employment and income among poor, single mothers produced reductions in family poverty and positive effects on children’s achievement and behavior, but little measurable effect on the home environment or parenting practices (Morris, Gennetian, & Duncan, 2005).

To summarize my argument, differentiating and defining “policy research” can help developmental scientists tailor their research to inform policy, taking their applied questions beyond identifying the antecedents and consequences of children’s development to informing policy more directly. The policy research lens focuses questions on actions that policymakers can take to address social problems; it usually crosses disciplines; it leads investigators to use a range of rigorous methods with particular attention to issues of causal direction and potential errors; and it frames questions and answers in terms that policymakers can use and understand. It makes us cautious about overinterpreting our data. I do not mean to suggest that other forms of research have no value for policy—quite the contrary. We need investigations of developmental processes that identify issues and suggest directions for policy. I do mean to suggest that this type of work is not sufficient to guide policy choices.

Communication Between Policymakers and Researchers

Whatever we do will make little difference if researchers and policymakers do not communicate. Investigators doing policy research try to reach the people making policy decisions with a plethora of short and long research reports, press releases, public briefings for legislative and policymaking groups, and personal contacts. The typical formats for dissemination to policymakers are not journal articles; they are reports issued by the organization conducting the research, usually containing a short executive summary and a long version that gives the details. Many projects and organizations publish Research Briefs or Policy Briefs on specific
topics or findings (e.g., Child Trends, Fragile Families Study, National Center for Research on Poverty, to name only a few). Busy policymakers need a short, concise, nontechnical presentation. Although these channels of dissemination contain some of the best policy research, the Internet has made it possible for anyone to post research with no peer review or quality control. Because most policymakers (including staff) are not trained in research methods, they need tools for evaluating the information they encounter.

Professional organizations can serve as filters to help the public and policymakers identify reliable, high-quality research findings. The Society for Research in Child Development regularly issues press releases about selected Child Development articles, and we send copies of the Social Policy Report to all congressional offices as well as selected federal and state policymakers. Many other professional organizations produce policy- or press-friendly materials, as well as organizing briefings for Congressional staff or other state and national policymakers. For example, the American Psychological Association has a 10-year initiative, The Decade of Behavior, designed to publicize and promote behavioral research. The Consortium of Social Science Organizations (COSSA) produces written materials and regularly organizes briefings.

Many of these dissemination efforts have limited success, partly because policymakers are flooded with information and with demands for their attention, but probably also because they are one-way communications. Less frequently, researchers from outside government organizations go to policymakers to find out what questions they would like research to answer. This kind of two-way communication may provide guidance for research design and whet policymakers’ appetites for learning about the results, particularly at the state and local levels.

*Setting the policy research agenda.* Policymakers set much of the policy research agenda. When a question is salient in the political landscape, federal agencies and foundations respond by posing questions for research, allocating funding, and requesting applications. Within the federal government and in some state governments as well, sophisticated social scientists play critical roles in translating policy concerns into research and in bringing scientific knowledge into the policy-making process. These individuals assemble information, arrange briefings, design requests for proposals, oversee internal research activities and externally funded research projects, provide information to legislators and members of the Executive Branch, and, in some cases, exercise considerable influence to assure that data are available to guide legislation and government policies. The NICHD Study of Early Child Care, for example, was initiated after NICHD held a series of conferences and meetings with scholars in the field in the late 1980s to discuss widespread concerns about the increases in maternal employment and infant child care.

Much of the big policy research is conducted or directed by government agencies that define the problem and contract with researchers to carry out the work. In the 1990s, HHS launched several major random assignment experiments testing welfare reform policies; in the last few years, it initiated the Head Start Impact Study and funding for marriage initiatives, each reflecting topics high on the political agenda.

A lot of child policy is made at the state and local level. Research at these levels of government is less common than at the federal level, but it does occur. Such organizations as the National Governor’s Association, the National Conference of State Legislatures, and the National League of Cities may be useful bridges to state and local policymakers. Many state universities work closely with the policymakers in their states. The increased emphasis on outcomes-based programs and accountability opens the door for researchers because many states and localities lack people with the expertise to conduct good evaluations of their programs.

Some private foundations also set policy research agendas and carry out dissemination activities with funding priorities for research and other programs. The W. T. Grant Foundation, the Foundation for Child Development, and a few others fund research, training, and dissemination, with particularly strong emphases on increasing the links between developmental research and policy.
Forums for interactions between researchers and policymakers. Government agencies and nongovernmental organizations sponsor workshops, conferences, and panels designed to bring social science into the policymaking process. Congress established the National Research Council in 1863 to provide advice about scientific matters to policymakers. Its Board on Children, Youth, and Families studies important policy issues by assembling panels of experts (including policymakers) to review the available research on a topic and to draw conclusions where appropriate. These range from broad topics (e.g., Neurons to Neighborhoods; Shonkoff & Phillips, 2000) to specific issues (e.g., childhood obesity; National Research Council, 2005). Because the National Research Council is careful to evaluate scientific evidence rigorously and to be nonpartisan, its conclusions are widely respected.

Training researchers in policy. A number of graduate programs in the US now train child development students in applied child or human development and in policy research—a definite step forward. In the 1980s, Bush Foundation-sponsored centers to study social policy provided a nucleus for training and research; many more training programs and research centers have been created in the last 15 years. Many of these programs are forming a Consortium of University-Based Child and Family Policy Programs to promote communication and shared resources.

Placing researchers in policy agencies is one of the best avenues for training and for incorporating a scientific approach into the policy process. The Society for Research in Child Development, along with several other professional organizations and foundations, sponsors postdoctoral and mid-career fellowships. Executive branch fellows work in federal agencies that conduct research related to children and families, such as the Administration for Children and Families, the Institute for Educational Sciences, and several of the National Institutes of Health. Fellows often take major responsibility for federally initiated studies that evaluate programs, test educational approaches, or study child care, to name only a few examples. Congressional fellows work as staff in the office of an individual Senator or House member or they work with a congressional committee. Their tasks depend on the legislative agenda, but their social science training becomes important for assembling information and drafting legislation on children’s issues.

Fellows take their policy experience into careers in academic institutions, government, and policy research organizations, and many of them play important roles in bringing developmental research into the policymaking process. Probably the best way to filter respect for science, data, and good research into policymaking is for people trained in research to participate in the process.

Thinking Out of the Box

I end on a note of caution. Even the best, most pertinent research may have little sway in political decisions. In the US, we are seeing budget cuts for sound, cost-effective programs and political priorities that give little more than lip service to children’s needs. For that reason among others, it is important for scientists to maintain some independence from current political agendas and to maintain perspective on the long-range issues affecting the welfare of children around the world.

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Policy researchers in the US often suffer from “inside the beltway blinders.” We tend to consider a narrow range of policy options that are within the scope of the current political zeitgeist—at least partly because those are the policies available to study. Each person seeking to contribute to the policy process needs to strike some balance between ideals and political feasibility. On the one hand, research may have more influence if it falls
With the stated purpose of making policymakers more likely to “seek, use, and respect what we offer,” Aletha Huston urges those who study child development to (1) focus research questions on conditions that policymakers can affect and tangible strategies they can use to produce positive changes in children’s lives; (2) produce useable information that, for example, addresses questions about thresholds and the practical magnitude of effects; and (3) build stronger, more effective channels of communication between themselves and policymakers. These seemingly straightforward suggestions are profoundly important and, while we have a long way to go, our field has made substantial progress on each of these fronts (see Phillips & Styfco, in press, and Hagen, 1997, for discussions of the history of the hybrid subfield of child development and public policy).

Importantly, Huston counterbalances this emphasis on urging scientists to accommodate to the policy context with cautionary remarks about over-interpreting data, becoming narrowly focused on prevailing political agendas, and falling prey to the current hegemony of investment rhetoric that values children only insofar as they can produce valued (i.e., economic) outcomes in the future. As Prewitt (1983) articulated over 20 years ago, scientists may make their most important contribution to public debate when they “subvert” prevailing policy premises (e.g., evidence demonstrating that providing family leave enhances rather than diminishes job commitment and productivity) and raise new questions (e.g., such as the work examining the effects of welfare reform not only on adult economic success but also on children’s development) rather than merely address those questions already being asked. Highlighting the inherent value of ensuring that children have a decent quality of life—a social value that is widely accepted among those shaping public policy for the aging population and for individuals with disabilities (for whom investment rhetoric is less compelling)—may be among the most important roles that developmental scientists can play in the policy arena. This is the explicit motivation behind the dual agenda of the Committee on Integrating the Science of Early Childhood Development (author of From Neurons to Neighborhoods), which balanced the need to speak to the future, with the need to speak to the present: “How can the nation use knowledge to nurture, protect, and ensure the health and well-being of all young children as an important objective in its own right, regardless of whether measurable returns can be documented in the future?” (p. 3).

To elaborate on Huston’s discussion, I will add three remarks. First, I have become increasingly aware of our professional responsibility not only to conduct and present research along the lines articulated by Huston, but also to educate the public and policymakers (or, more likely, their staff) about the fundamental constructs, standards, and ethics that guide our work (see Bertenthal, 2002, for a cogent discussion of this issue)—in effect, to serve as ambassadors for our field, and for science more generally. Recently, for example, I attended a meeting that brought together Administration officials, Congressional staff, representatives of non-profit groups, and researchers to discuss the new Head Start Impact Study (U.S. Department of Health and Human Services, 2005). Both the study report and the discussion failed to acknowledge limits of generalizability, consider the implications of leakage from the random assignment design, provide information on intervention dosage, or place effect size estimates in context. The possibilities for misinterpretation of the results and ineffective policy responses were immense…and, frankly, frightening. I would urge policy researchers to assume greater responsibility for educating their audiences about the extreme importance of issues such as these and, in so doing, begin the arduous process of cultivating more educated consumers of science, at least those in pivotal policy positions. Indeed, as noted by Huston, some of the most effective players in this process are individuals with graduate training in developmental psychology who presently serve in prominent policy positions (often entering through fellowship programs such as that offered by SRCD).

Second, it is increasingly recognized that an essential element of producing useable knowledge and communicat-
ing it effectively to policymakers involves the interrelated tasks of framing our message and working directly with the media. In their *Social Policy Report* on child care, Brauner, Gordic, and Zigler (2004) discuss the importance of selecting effective language for presenting research findings so that they communicate the evidence as we understand it (rather than reinforce ingrained but inaccurate information or “frames,” i.e., child care is fundamentally a “kiddie container” for which parents are fully responsible) (see also Benton Foundation, 1998). Equally important is the need to forge effective relations with local and national media who, like it or not, often serve as “information brokers” between the worlds of science and policy (see Phillips, 2002, and Thompson & Nelson, 2001, for further discussion of this topic).

Third, Huston mentions the emerging Consortium of University-Based Child and Family Policy Programs. Following a series of planning meetings, the current participating group of over 25 university-based programs agreed to formalize their relationship to (1) provide an internal clearinghouse to foster improved cross-site and cross-disciplinary communication; (2) have a more collaborative and collective influence on policy by, for example, establishing informal networks of scholars working on similar topics across the country; (3) learn from each other in our efforts to prepare the next generation of developmental-policy students through shared resources, student exchanges, and support for student-to-student collaborations; and (4) support and enhance the dissemination efforts presently focused at individual universities by, for example, sharing policy briefs, preparing cross-site media-friendly summaries of research, and organizing joint briefings. The highly interdisciplinary nature of these programs, their mix of university auspices, their exciting undergraduate and graduate training programs, and the wealth of community, state, and federal issues being addressed, are a testament to high level of activity that currently surrounds efforts to connect the science of child development to public policy.

**References**


within the realm of policy solutions that are currently on the table. On the other, we as scientists should offer challenges to conventional wisdom. Helburn and Bergmann’s (2002) book on child care is a good example. After comparing systems from various western industrialized countries, they proffer three potential policies ranging from full funding of the current system of child care subsidies—a solution that is barely within the realm of political possibility—to free or lost-cost universal child care—a solution that appears wildly unlikely in the US. But, we are sometimes surprised. Publicly supported pre-kindergarten education for 4-year-olds has swept the country in the last several years. In two states, it is universally available; in other localities, it is offered to children at risk of school failure. These expansions in the educational system would have seemed impossible a few years ago.

We need to think broadly about the values undergirding child policy—values that lead us to place importance on children’s well-being for reasons other than current cost or future economic productivity. In U.S. policy research, we often evaluate the importance of a child “outcome” at least partly by investment and productivity criteria, and we demand long-term as well as short-term effects on children across a range of contexts (a requirement that is not made for most other policies). The very word “outcome” defines the child as a product. This perspective has led to a discourse of investment in children, with the “profits” to come from their future economic productivity.

We might instead ask whether children are healthy, happy, and free of want. In a number of European countries, the U.N. Convention on the Rights of the Child (United Nations, 1989) is used to frame child policies that need no justification beyond the goal of promoting human rights (e.g., Waldfogel, 2001). Our research designs and outcomes would look very different if we were striving to assure such rights as family support, access to health care, access to information and education, and many other children’s rights listed in the U.N. Convention. In the United Kingdom, the government is planning to spend an added 1% of the GDP to improve the life chances of children by the year 2020. They propose large increases in support for paid parental leave, universal half-day educational programs for children ages 2 to 4, universal entitlement to full-time child care for children ages 1 to 5, and a significant increase in the qualifications and wages of the “early years workforce” who provide education and child care (Alakeson, 2004; Hills & Waldfogel, 2004). Although the political will provided by the government and the public is clearly essential to this policy decision, research on early childhood is one contributing component. As scientists concerned about child development, we have a responsibility to frame research and policy debates around the broad goals we consider important for children’s welfare and to be ready with good data when the window of opportunity opens for our science to inform policy decisions.

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Deborah A. Phillips is currently Professor and Chair of Psychology at Georgetown University and Co-Director of the Georgetown University Center for Research on Children in the U.S. Prior to this she was the first Executive Director of the Board on Children, Youth, and Families of the National Research Council’s Commission on Social and Behavioral Sciences and the Institute of Medicine. She also served as Study Director for the Board’s comprehensive report on early childhood development, From Neurons to Neighborhoods. The Science of Early Child Development, released in October 2000. She has studied the developmental effects of early childhood programs, as well as issues associated with the child care workforce, for three decades, most recently as principal investigator of the National Institute of Child Health and Human Development funded study of Child Care and Temperament Over Time; the Who Stays? Who Leaves? longitudinal study of the child care workforce in Alameda County, California; and the ongoing evaluation of the universal pre-kindergarten program in Oklahoma. She was also part of the original group of investigators with the NICHD Study of Early Child Care and Youth Development and remains closely involved with this major longitudinal study of the developmental effects of child care. As a Congressional Science Fellow of the Society for Research in Child Development immediately after receiving her Ph.D., Phillips served as an analyst at the Congressional Budget Office and on the personal staff of Congressman George Miller. She was also a mid-career fellow at Yale University’s Bush Center in Child Development and Social Policy and the first Director of the Child Care Information Service of the National Association for the Education of Young Children. She serves on numerous task forces and advisory groups that address child and family policy issues, including the Task Force on Meeting the Needs of Young Children of the Carnegie Corporation of New York, the research task force of the Secretary’s Advisory Committee on Head Start Quality and Expansion of the U.S. Department of Health and Human Services, and the newly established National Scientific Council on the Developing Child—an outgrowth of the Neurons to Neighborhoods report. Phillips is a Fellow of the American Psychological Association and the American Psychological Society.
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Content

The Report provides a forum for scholarly reviews and discussions of developmental research and its implications for policies affecting children. The Society recognizes that few policy issues are noncontroversial, that authors may well have a “point of view,” but the Report is not intended to be a vehicle for authors to advocate particular positions on issues. Presentations should be balanced, accurate, and inclusive. The publication nonetheless includes the disclaimer that the views expressed do not necessarily reflect those of the Society or the editors.

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