Issue Paper #10

Partnership for America's Economic Success

Developmental and Economic Effects of Parenting Programs for Expectant Parents and Parents of Preschool-age Children

By
Sharon M. McGroder, PhD, MS, Senior Scientist and
Allison Hyra, PhD, Senior Associate

Funding for this report was provided by the Partnership for America's Economic Success (PAES). The views expressed in this paper are those of the authors and do not necessarily reflect the views of the reviewers, PAES, the Pew Charitable Trusts (Pew), or The Lewin Group (Lewin). The authors would like to thank Sara Watson, Elaine Weiss, Beth Gross, and Grace Lee at Pew, and Ann Segal at Wellspring Advisors, for their guidance, feedback, and support in the development of this paper. We also would like to thank Tamara Halle at Child Trends for her thorough review and insightful comments on an earlier draft. We are also grateful for the careful review and feedback provided by Sara Walzer (Parent-Child Home Program), Karen Guskin (Parents as Teachers), Kim Boller (Mathematic Policy Research Inc.), Naomi Goldstein, Mary Bruce, and Rachel Chazan-Cohen (U.S. Department of Health and Human Services), and other anonymous reviewers. Finally, we would like to thank our Lewin colleagues, Karen Gardiner and Mike Fishman, for their helpful comments on numerous drafts of this paper, and Julia Graffam for her tireless reviews and copyediting.

The Partnership for America's Economic Success was created by a group of business leaders, economists, advocates, and a dozen funders in order to document the economic impacts to the nation of proven investments in children from before birth to age five. Funders include the Buffet Early Childhood Fund; Robert Dugger; George Gund Foundation; Horace Hagedorn Foundation; Paul Tudor Jones; Ohio Children's Foundation; Peppercorn Foundation; The Pew Charitable Trusts; PNC Financial Services Group, Inc.; Scholastic, Inc.; The Schott Foundation for Public Education; and Anonymous. The Partnership is managed by The Pew Charitable Trusts.

Release Date: February 18, 2009

Contents

Introduction

The next generation of Americans must be better prepared than past generations to compete in a post-industrial global economy and become productive citizens. The Partnership for America's Economic Success (PAES) believes that the best way to ensure that young adults grow up educated, healthy, and with the ability to get along with others and work effectively in teams is by "invest(ing) in their care, health, and education as early in their lives as possible" (Dugger, 2007).

From a lifespan development perspective, early disadvantages in health and education are increasingly difficult to overcome later (Shonkoff & Phillips, 2000). Moreover, economists have argued that financial investments in children early in life have greater rates of return than later investments, with economic benefits deriving from a more skilled labor force, a healthier population, and less crime (Bruner, 2004).

Given this rationale, the PAES has commissioned a series of papers to identify—and to the extent possible, financially quantify—the long-term societal benefits of investing early (from conception to age five) in effective programs for children. This paper focuses on parenting education programs.

Despite research suggesting parents' primary influence on children,[1] and mounting evidence suggesting that parenting education programs hold promise for improving parenting and child outcomes, it is unclear which parenting education programs are reliably and sufficiently effective—and *cost*-effective—to warrant large-scale replication. In addition, despite the fact that an estimated 50,000 parenting education programs reach millions of parents and caregivers every day, there remain communities in the U.S. that do not have the resources to provide parenting education programs (Carter & Kahn, 1996). This reality prompted PAES to ask: ***If we made sufficient investments in effective parenting education programs, what might be the economic benefits to society?***

This paper seeks to answer this question by: (1) identifying one or more parenting education programs that have demonstrated their effectiveness in improving parenting and/or child outcomes; and (2) extrapolating these findings to quantify the economic benefits to society from a broad investment in such programs. Given this focus, we reviewed the parenting education evaluation literature with an eye toward addressing the following issues:

(1) **Is the program effective?** Only programs that have been shown to be effective are candidates for extrapolating societal benefits and, thus, included in our review. (See Section III for greater detail.) This requires that studies used rigorous evaluation designs and theoretically- and psychometrically-sound measurement strategies. Note, programs that have not been shown to be effective—either because of inadequate evaluation methodologies or because they have not been evaluated in the first place—may nevertheless be effective. (As Carl Sagan noted, "Absence of evidence is not

[1] See Shonkoff and Phillips (2000) for a review.

evidence of absence".[2]) Thus, our review does not draw conclusions as to the overall effectiveness of parenting education programs per se but, rather, identifies "best bets" for estimating societal benefits were these well-evaluated programs to be implemented on a large scale.

(2) **Are impacts meaningful?** Only studies that demonstrate impacts on outcomes that are readily interpretable and meaningful provide information necessary for extrapolating societal benefits. A rigorously evaluated program may show impacts on a measure of "effective parenting" and commensurate changes in children's "behavior problems," but if measures do not readily lend themselves to straightforward interpretation (either because measures of these constructs are not adequately described and/or not demonstrated to be valid and reliable), then the meaningfulness of these impacts cannot be ascertained, and extrapolation to long-term outcomes is impossible.

(3) **Do impacts matter for longer-term child development and functioning?** Even if studies show positive and meaningful impacts on short-term parent and/or child outcomes, the question remains whether these impacts matter to later parenting and child outcomes. In particular, if we cannot link short-term impacts on children to positive changes in long-term outcomes known to be important for a successful transition to adulthood—for example, prevention of child abuse and neglect, teen pregnancy, delinquency/crime, substance use, or dropping out of high school —then we cannot assess the long-term societal benefits of investing in such programs.

(4) **Is the program cost effective?** Even among studies linking short-term program impacts on children to longer-term outcomes reflecting benefits to society, data must be available on the costs associated with providing the program so that the program's cost-effectiveness can be estimated. To be sure, we as a society can and do decide to invest in programs that have not demonstrated their cost effectiveness—for example, prevention of child abuse and neglect is an important societal value regardless of its return-on-investment ratio. Nevertheless, among programs that have cost-effectiveness data behind them, it is a prudent use of scarce resources to invest in the one(s) that yield the greater "bang for the buck."

The Promise of Parenting Education

The promise of widespread investments in parenting education hinges on the degree to which parenting is a major predictor of "undesirable" outcomes—such as poverty, violence, school failure, and family instability. Clearly, these social ills have many causes at multiple levels (structural, interpersonal, and individual), and investing in parenting education will not eliminate poverty, violence, school failure, or family instability (Wandersman, 1987).

So what *can* parenting education programs do to address (if not alleviate) these large-scale problems? Parenting education holds promise for breaking the intergenerational transmission of

[2] http://thinkexist.com/quotation/absence_of_evidence_is_not_evidence_of_absence/154055.html. See also discussion in Altman (1995).

these problems by targeting individual-level factors relating to parenting—knowledge, skills, attitudes, and behavior—that are theoretically- and/or empirically-related to early child outcomes that have been shown to be predictive of longer-term well-being. And as noted by the late and nationally renowned developmental psychologist, Dr. Urie Bronfenbrenner, when parents are the target of programs aimed at improving child health and development, "the intervention does not terminate at the end of the program, but continues as long as the patterns of joint activity and interaction between mother and child endure" (Bronfenbrenner, 1974, p. 26).[3]

Parental Influences on Children

An extensive literature, generated by researchers from a variety of scholarly disciplines, addresses the ways in which parents affect children. Children are affected by who parents *are* (e.g., with respect to gender, age, race/ethnicity, intelligence, education levels, temperament), what parents *know* (e.g., about child development and normative child behavior), what parents *believe* (e.g., attitudes toward childrearing), what parents *value* (e.g., education, achievement, obedience, interpersonal relationships), what parent *expect* of their children (e.g., age- or developmentally-appropriate expectations for behavior, achievement expectations), and what parents ultimately *do* (i.e., their parenting practices and overall parenting "styles"). Decades of research describe the implications of these multiple dimensions of "parenting" for their children's cognitive, social, emotional, and physical development.[4] For example, a solid base of research suggests that parenting characterized by both warmth and firm discipline ("authoritative") predicts better self-control, self-reliance, and exploration in children; parenting characterized by coercive and harsh discipline and lacking in warmth ("authoritarian") is associated with distrust and withdrawn behaviors in children; and parenting characterized as "permissive" or "uninvolved" (lax discipline and low warmth) or "indulgent" (lax discipline but warm) predicts worse self-control, self-reliance, and exploration in children (Baumrind, 1967; Maccoby and Martin, 1983).

That parents and families play an important role in a child's development is one of the more consistent and enduring findings from decades of research. Coleman's classic 1966 study of racial disparities in education found that parent- and family-related factors were among the strongest predictors of academic achievement (Coleman, 1966).More recently, in a groundbreaking comprehensive longitudinal study of children's early care and development, researchers found that family characteristics and parenting (e.g., sensitive caregiving, cognitive stimulation, and positive involvement) in the first years of life predicted pre-academic skills and socio-emotional development and behavior throughout the preschool years—even after controlling for the number of hours, quality, and type of child care the children experienced. In fact, the estimated effects of parenting were often larger than the estimated effects of child care (NICHD Early Child Care Research Network, 2003). Thus, despite the potential for early childhood education to foster positive child development, family environments typically account

---

[3] Bronfenbrenner would probably agree that, in this day and age, this statement equally applies to fathers, especially inasmuch as fathers are increasingly targeted by parenting and, more recently, "fatherhood" programs.

[4] For a comprehensive summary of these key literatures and research findings, see Shonkoff and Phillips, 2000.

for greater variance in children's outcomes, reflecting the indisputable fact that parents remain their children's first teachers, and what they do matters for children.

Potential Societal Benefits of Parenting Education Programs

In addition to the individual benefits accruing to children who are adequately nurtured and supported to adulthood, there are key societal benefits that have prompted advocates and policymakers to explore the promise of parenting education as a preventive approach yielding economic benefits in the form of tax savings (from a reduced need for remedial social and education programs) and increased productivity (from a better prepared workforce). Interest and public investments in parenting education typically revolve around reducing the negative and costly outcomes associated with child maltreatment, school failure, and criminal activity.

Child Maltreatment

Child abuse and neglect is not only traumatic to the maltreated child—affecting their physical and psychological well-being and their cognitive and behavioral development (National Research Council, 1993)—it is also costly to society. Direct costs include public expenditures on services for maltreated children and their families, which exceeded $23 billion in 2004. Half of these expenditures came from federal funds for foster care, adoption assistance, child welfare services, Medicaid, the Social Services Block Grant, and Temporary Assistance for Needy Families; the remaining come from state and local sources (Child Welfare League of America, 2007; National Clearinghouse on Child Abuse and Neglect Information, 1998)..Indirect costs reflect the long-term consequences of child maltreatment and can include: (1) the increased need for services such as special education, mental health, substance abuse, and welfare; and (2) increased costs associated with teen pregnancy, domestic violence, juvenile delinquency, adult criminal behavior, and lost productivity (National Clearinghouse on Child Abuse and Neglect Information, 1998).

One researcher estimated the cost of maltreatment-related juvenile delinquency and adult criminality at $14.9 million annually, based on the estimated 20 percent of maltreated adolescent victims who become delinquent, at an average cost of $42,000 for two years of correctional institutionalization (Daro, 1988). These costs would be closer to $2.5 million in 2007 dollars. These estimates are based on the number of adolescent maltreated victims in 1983 (approx. 177,000); in 2004, an estimated 218,022 child maltreatment victims were adolescents,[5] suggesting that the costs of maltreatment-related juvenile delinquency and adult criminality (and adjusting to 2004 dollars) may have been closer to $21.6 million in 2004. Daro (1988) also estimated that severe child maltreatment costs society between $658 million and $1.3 billion in lost future productivity, assuming that abuse-related impairments reduce future earnings by between 5 and 10 percent. These figures translate into approximately $1.1 and $2.2 billion in 2007 dollars. On the one hand, these estimates are an underestimate, because they do not

[5] Calculations by authors, given that 872,088 children were substantiated or indicated as abused or neglected in 2004 (Child Welfare League of America, 2007), and that an estimated 25 percent of child maltreatment victims in 2001 were adolescents (see Kimball, C., and Golding, J. (2004). Adolescent Maltreatment: An Overview of the Research. The Prevention Researcher, 11 (1), Downloaded from http://www.tpronline.org/issues.cfm?articleID=280 on August 24, 2007).

account for the number of maltreated *children* who one day may also follow a delinquent trajectory. On the other hand, these estimates may overstate the potential cost savings from the prevention of child abuse and neglect through parenting education, because (1) not all of these youth were born to first-time or teen parents, (2) parenting education would probably not prevent all child maltreatment, and (3) it is not clear whether programs shown to be effective with these higher risk populations would also be effective with lower-risk parents..

Not only is child maltreatment costly to society, a new study shows that children are often worse off in foster care than they were in their less-than-optimal homes (Doyle, forthcoming).

School Failure

Children who are cognitively, emotionally, socially, and academically ready for school have greater school success than children who are behind in one or more of these areas. Moreover, research shows that setbacks early in school—such as reading below grade level and grade repetition in elementary school—can have lasting consequences for school achievement, high school completion, and educational attainment through early adulthood (Alexander, Entwisle, & Kabbani, 2001). Parents and families play an important role in their children's readiness for and success in school, with one longitudinal study showing that children whose parents had greater achievement expectations *as early as first grade* were half as likely to drop out of school than children whose parents had lower expectations. School failure is costly to our country: four in 10 welfare recipients in 2002 lacked a high school diploma or its equivalent (Zedlewski, 2002), half of the prison population lacks a high school degree (ETS, 1995), and dropouts typically earn less than high school graduates even after controlling for differences in academic achievement (McDill, Natriello, & Pallas, 1986).

Criminal Activity

While all children at some point are disobedient and have temper tantrums, some children's antisocial behaviors are so severe and persistent that they interfere with the child's ability to learn or form relationships (Knapp, Scott, & Davies, 1999). Conduct disorder is the mental health diagnosis for persistent child behavior problems including disobedience, rudeness, lying, stealing, aggression toward people, and destruction of property (World Health Organization, 1992). Affecting an estimated 5 percent of children in urban areas, conduct disorder is the most common psychiatric disorder in childhood (Kazdin, 1995). Children with conduct disorders may require special education, mental health services, and possibly even residential or foster care (Knapp, Scott, & Davies, 1999). Moreover, young children with conduct disorders are at greater risk for peer rejection, later delinquency, and school dropout (Caspi, Elder, & Bem, 1987). Oftentimes, early behavior problems result from, and are exacerbated by, coercive parenting practices that emerge during the preschool years and are remarkably stable without intervention (Reid, Patterson, & Snyder, 2002).

These problems are costly to society—by some estimates, between $34,000 and $64,000 annually to incarcerate and treat each juvenile offender (Kumpfer, 1999). More comprehensively, one British study examined both direct and indirect costs associated with conduct disorders among a small sample of four- to ten-year-olds who had been referred to mental health services, taking into account their increased utilization of special education, health,

mental health, and social services, and their parents' lost productivity at work. These researchers estimated an annual per-family cost ranging from £ 5,411 to £ 40,896 (approximately $10,725 to $81,240, in 2007 U.S. dollars), averaging £15,382 ($30,490, in 2007 U.S. dollars) per family per year (Knapp, Scott, & Davies, 1999). All told, the average criminal career beginning as a juvenile and continuing through the adult years costs society between $1.3 million and $1.5 million (Cohen, 1998), or between $1.8 million and $2.0 million in 2007 dollars.

Summary

While macro-economic and structural conditions are also implicated in the unacceptably high rates of child maltreatment, school failure, and criminal activity, parents' knowledge, skills, attitudes, expectations, values, and behaviors also play important roles. It follows, then, that preventing child abuse and neglect, reducing early problem behaviors, and promoting school readiness among preschool-age children—for example through empirically-validated parenting education programs—could yield substantial costs savings to society through the prevention and reduction of child maltreatment, school failure, and criminal activity.

Overview of Parenting Education

Definitions

The National Parent Education Network defines parent education as "a process that involves the expansion of insights, understanding and attitudes and the acquisition of knowledge and skills about the development of both parents and of their children and the relationship between them."[6] Some researchers use the term *parent training* when referring specifically to programs aimed at increasing parenting skills, and they use the term *parent education* when referring to a broader set of programs which can include lower intensity educational activities, such as simply providing parents with child-rearing-related information (Matthews & Hudson, 2001). Parenting education is also seen as a type of *family support* program (Weissbourd, 1987), especially if it includes services aimed at broader contextual factors impinging on a parent's ability to parent effectively (e.g., stress, depression, unmet basic needs).

The Pew report, See How We Grow, refers to *parenting* education rather than *parent* education to reflect the fact that non-parental caregivers are often the targets of these programs (Carter & Kahn, 1996).Adopting this philosophy, this paper uses the term parenting education to refer to the set of "programs, support services, and resources offered to parents and caregivers….designed to support them or increase their capacity and confidence in raising healthy children."

History of Parenting Education

Efforts to improve parenting through education and support date back thousands of years, when child-rearing suggestions first appeared in written form (Dangel & Polster, 1984). In the United States, "Maternal Associations" began meeting regularly in the early 1800s to discuss biblically-

[6] Downloaded on July 6, 2007 from: http://www.ces.ncsu.edu/depts/fcs/npen/about_bk.html

based child rearing; these study groups mark the beginning of more formal **parenting** education programs. In 1897, the National Conference of Mothers (later becoming the Parent-Teachers Association, PTA) was established as the first national organization of women dedicated to supporting women in their role as mothers. The PTA soon became a popular source of information on childrearing and child development and, eventually, an engine for social reform (Weissbourd, 1987).

As the scientific knowledge base about child development grew in the early 20th century, parenting education efforts increasingly focused on imparting empirically-based information to mothers in the interest of improving their parenting (Wandersman, 1987), with a corresponding shift away from a narrow focus on the moral training of children to a broader concern about child and societal well-being (Weissbourd, 1987).

When the federal government declared a "War on Poverty" in the 1960s, the parenting education movement shifted from addressing the needs and concerns of middle-class mothers to addressing the needs of disadvantaged families and children, and the federal government funded an array of social programs that focused on, or included, parenting education. Parent and Child Development Centers (Dokecki, Hargrove, & Sandler, 1983), Home Start (Love, Nauta, Coelen, Hewett, & Ruopp, 1976), the Family Development Research Program (Lally & Honig (1977), and the Parent-Child Home Program (Levenstein, O'Hara, & Madden, 1983) all sought to foster social and academic competence in disadvantaged preschool-age children—thereby breaking the cycle of poverty—by teaching their mothers about child development and effective parenting strategies.

Today, parenting education programs are funded through various federal, state, local agencies seeking to strengthen families and prevent undesirable and costly outcomes. For example, the Centers for Disease Control and Prevention (CDC) funds research and promotes parenting education as a means of preventing and treating child abuse and neglect, and child welfare agencies across the country provide these programs to families at risk for or already involved with child protective services. The Office of Juvenile Justice and Delinquency Prevention in the U.S. Department of Justice invests in parenting education programs as a means of preventing delinquency, and educates the field on "model programs."[7] Similarly, the Substance Abuse and Mental Health Services Administration in the U.S. Department of Health and Human Services has funded family strengthening as a means of preventing substance abuse and mental health problems, and sponsors the National Registry of Evidence-based Programs and Practices as a resource for practitioners and researchers in the behavioral health field.[8]

There are also national, state, and local advocacy and service organizations that support parents and the professionals who serve them. For example, Parents as Teachers (PAT) certifies parent educators to provide parenting education and family support programming to families prenatally to age 5, sponsors a website to educate and network parents, and the Parents as Teachers National Center advocates for policies that support parents of young children.[9] The National

---

[7] See http://www.dsgonline.com/mpg2.5/mpg_index.htm

[8] http://www.nrepp.samhsa.gov/. Downloaded July 28, 2007.

[9] http://www.parentsasteachers.org/. Downloaded July 28, 2007.

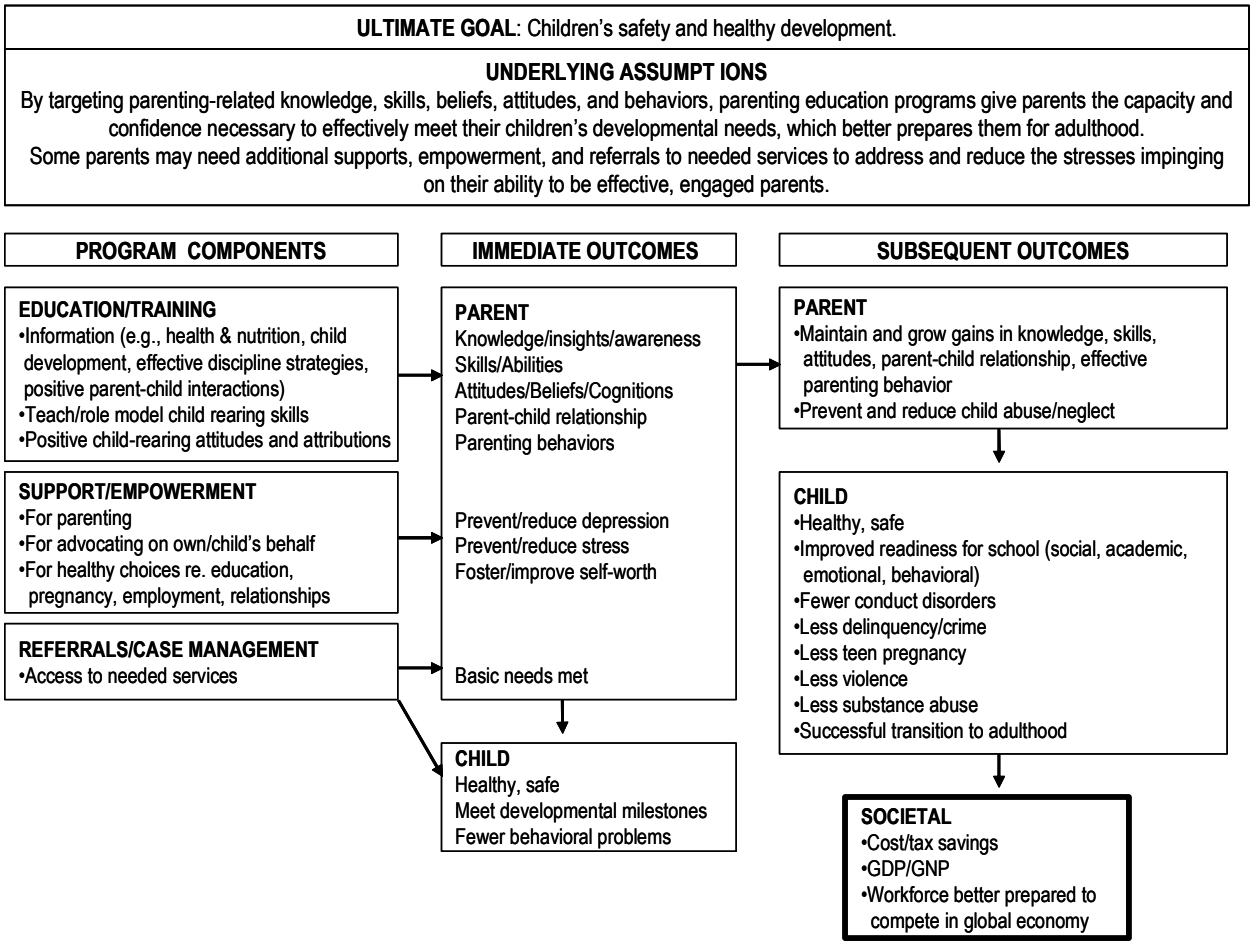
Parent Education Network seeks to advance the field of parenting education by fostering information sharing, professional development, and networking for the estimated 250,000 professionals, paraprofessionals, and volunteers who serve as parent educators, and to provide national leadership in the field of parenting education among professionals, policy makers, media, and the public.[10] Family Support America seeks to support parents and families more broadly by providing information and referrals to services to address a variety of problems, challenges, and issues that families face—from relatively common issues like disciplining children and step-parenting, to more difficult problems like child abuse and alcoholism.[11]

A Logic Model for Parenting Education Programs

A logic model is a graphic representation linking what a program does to what it hopes to achieve, and makes explicit the underlying assumptions about why program activities will lead to the achievement of these program goals. *Exhibit 1* shows a logic model illustrating the typical elements and outcomes expected from parenting education programs.

[10] http://www.ces.ncsu.edu/depts/fcs/npen/#. Downloaded July 28, 2007.
[11] http://www.familysupportamerica.org/. Downloaded July 28, 2007.

Exhibit 1—A Logic Model for Parenting Education Programs



The overarching goal of parenting education programs is to foster children's safety and healthy development. The underlying assumption of parenting education programs is that by targeting parenting-related knowledge, skills, beliefs, attitudes, and behaviors, parenting education programs give parents the capacity and confidence necessary to effectively meet their children's developmental needs, thereby preparing them for adulthood.

Parenting education program activities, therefore, typically involve educating parents on developmental stages and milestones (to foster realistic, age-appropriate expectations for behavior) and on how parents can support their child's development at each stage with cognitively stimulating activities, positive interactions, and developmentally-appropriate and effective discipline strategies. In addition to these core parenting education activities, some program offer additional supports and referrals to needed services to address and reduce the stresses impinging on parents' abilities to be effective, engaged parents.

Immediately upon completion of program activities, it is expected that parents understand the concepts, gained new information and insights, and have acquired the skills taught. In addition, parents receiving additional supports are expected to have improved psychological well-being, and parents receiving referrals and case management are expected to experience improvements

in getting their basic needs met. It is also expected that these gains would be maintained long after the program has ended, as parents apply what they've learned in their daily lives.

Inasmuch as these parent and family outcomes are achieved, children are expected to benefit. Immediately, children are expected to show improved health and safety (as the likelihood of child abuse and neglect declines), healthy development, and their behavior may improve as parents learn more effective discipline and child management strategies. If parents continue to apply what they've learned, children are expected to grow up healthy and safe, ready for school (socially, academically, emotionally, and behaviorally), with fewer conduct disorders, a lower likelihood of engaging in risky behaviors (e.g., delinquency/crime, violence, substance abuse), and a greater likelihood of becoming happy, productive members of society. Eventually, such investments in children's early parenting environments could translate into economic benefits to society in the form of tax savings, a growing gross domestic product (GDP) and gross national product (GNP), and a workforce better prepared to engage in an increasingly competitive global economy. In fact, a recent study estimates that broad investments in early childhood education could yield increases in GDP comparable to those from direct investments in business subsidies (Bartik & Erickcek, 2003; Bartik, 2008).

Towards a Typology of Parenting Education Programs

Even as they share the same ultimate goal of child safety and healthy development, parenting education programs vary widely in focus, intensity, and in the specific parent behaviors and/or child outcomes they seek to change.

Some parenting education programs are "universal" in that they are designed for the general population and tend to focus on primary prevention and the promotion of positive parenting practices. These universally-targeted programs are typically shorter in duration and less intensive than "selected" or "indicated" programs. "Selected" programs target high-risk individuals and families—such as those at risk for child maltreatment—and are typically longer, more intensive, and may include multiple components to address underlying risk factors. Finally, "indicated" programs target existing problems that have been identified or diagnosed—such as reported or substantiated child abuse, or diagnosed child conduct problems—and can be fairly extensive in duration and intensity, and may include a therapeutic component. [12]

Parenting education programs can vary in specific content. Some programs are narrowly focused—for example, addressing parents' literacy behaviors and children's literacy outcomes, or parents' behavior management strategies and children's oppositional and defiant behavior. Other programs address parenting needs more broadly, providing information on normative child development, sensitive caregiving, attending to children's health and medical needs, and effective and age-appropriate discipline strategies.

Parenting education programs can be low-intensity and low-cost (for example, distribution of educational materials), moderately intensive with a commensurate increase in costs (for example, multi-session group-based parenting education classes led by paraprofessionals), or fairly

[12] Downloaded on June 19, 2007 from: http://www.strengtheningfamilies.org/html/programs_1999/Matrix_Classification.html#N_1_.

intensive, comprehensive, and expensive (for example, home visiting models and programs addressing multiple family needs, which may include a case management component and/or collaboration with child care, preschool, or school settings).

The State of the Literature Regarding the Effectiveness of Parenting Education Programs

Though formal parenting education programs have been around for over a century, few have been evaluated—and even fewer use widely-accepted scientific practices for sampling, measurement, design, analysis, and interpretation of findings. For example, few use probability samples, drawing from a definable population—such as all parents in a geographic area who are pregnant or parenting a child age five or younger. Rather, evaluation studies typically rely on samples of convenience when testing programs—such as parents who are already enrolled in a local parenting education program. As a result, findings may only hold for parents who self-select into a parenting education program, who are probably more highly motivated and/or have greater resources than the general population of parents.

In addition, very few evaluation studies use rigorous evaluation methods—such as an experimental or strong quasi-experimental design—to control for other factors that affect the outcome(s) of interest (Karoly, Kilburn, & Cannon, 2005). For example, personal characteristics of the parent—such as valuing being an effective parent—can both predispose them to being effective parents *and* lead them to enroll in parenting classes. Any subsequent positive correlations between parenting and child outcomes among program participants *may* reflect the effect of the program, but they also may be "spurious," reflecting the fact that parents who value being parents tend to be more effective parents to begin with, and their children tend to benefit as a result. Without a randomly-assigned control group or a strong comparison group to control for such spurious correlations, one cannot be confident that participant outcomes are, in fact, a result of the program.

Findings from the relatively few well-designed studies suggest that parenting education can be effective in changing parenting behavior, but there are "surprisingly few" evaluations that simultaneously examine both parent and child outcomes (Shonkoff & Phillips, 2000, p. 261). As a result, we know precious little about which parenting education programs affect children's contemporaneous outcomes and, thus, which programs may have lasting benefits as children transition to adulthood.

In sum, only evaluations that apply rigorous scientific methods yield credible evidence on program effectiveness. Without credible estimates of the effects of parenting education on children, it is not possible—and thus, inadvisable—to extrapolate from these findings to estimate the economic benefits to society from investing in these programs.

Methodology

As noted above, parenting education encompasses a wide array of programs that vary in purpose, focus, scope, duration, content, and mode of service delivery. Given PAES's goals, this paper does not provide a synthesis of the parenting education program evaluation literature but, rather, identifies a small set of program evaluations that best position us to estimate economic benefits to society from investing in parenting education programs aimed at parents of young children—particularly those whose children may be at risk for problem outcomes. As such, we considered only those parenting education programs that met certain criteria.

Selection Criteria

To be included in our study, parenting education evaluations had to meet both program-related criteria and evaluation-related criteria. Parenting education programs had to:

Serve individuals or couples expecting a child (i.e., prenatally) and/or parents of preschool-age children (age five or younger). That is, to be included in our sample, parenting education programs had to include child age targets that at least partially overlapped with our target (pregnancy to five years old). Thus, a program that served four- to nine-year-olds would be included, but one that served only children in middle school would not.

Provide direct service delivery, in the form of parenting education, to parents. The parenting education could be provided as a stand-alone program or as a major component of a larger program that may serve children directly as well. However, if the program is part of a larger intervention focused on parents, or parents and children, the evaluation design would need to allow estimates of the *unique* effect of the parenting education component (i.e., apart from the effect of the intervention as a whole).

Serve parents whose children may be at risk for problem outcomes. Specifically, to be included in our sample, parenting education programs had to include families with one or more risk factors, such as new parents, teen parents, single parents, low income, residence in a high poverty neighborhood, involvement in the child welfare system, or children with emerging conduct problems or behavioral, emotional or physical difficulties. If a program served both risk and non-risk populations, the evaluation design would need to allow separate estimates of the effect of the parenting education component for each sub-population in order to be included in this study.

In addition, to be included in our sample, program evaluations had to meet the following criteria:

Experimental or strong quasi-experimental design, with a "no parenting education" control group. In order to confidently attribute parent and/or child outcomes to the intervention—which is necessary if we are to assume that investing in these approaches will, in fact, alter parenting and child outcomes, thereby benefiting society—only studies adopting an experimental or strong quasi-experimental design were included. By strong quasi-experimental design, we mean the use of a comparison group—followed prospectively—that is selected or constructed to be similar to the program group on key factors that could also influence, or account for, parenting and child outcomes. In addition,

given the task of estimating societal benefits from investments in parenting education, it is necessary that studies include a control or strong comparison group that receives no parenting education. In all cases, this meant that included studies denied the control/comparison group the treatment being tested, though they were not denied services they would otherwise have secured on their own. We thus excluded studies that only tested the relative effectiveness of alternative parenting education approaches. In one included study (Baker, Piotrkowski, & Brooks-Gunn, 1998), both program and control families received a high quality preschool program, so the experimental analyses assessed the impacts of parenting education above and beyond the benefits of high quality early childhood education.

Evaluation design must allow estimation of the unique impact of the parenting education component. In order to isolate the effects of parenting education, a multi-component intervention must have used a planned comparison evaluation design, whereby participants are randomly assigned to either the parenting education components, other program components (for example, direct service delivery to children), or to a control group. Comparing mean outcomes for the parenting education and control groups indicates the effect of parenting education above and beyond what control group members obtain on their own in the community. Comparing mean outcomes for the parenting education and "alternative component" groups indicates the effect of parenting education above and beyond the effects of the other service components.

Must include measures of child outcomes, and find impacts on these measures. In order to estimate long-term benefits of parenting education programs for children's outcomes, evaluations need to have examined and found impacts on child outcomes and not just parenting outcomes. Ideally, evaluations would examine impacts on child outcomes that predict—or are, themselves, indicators of—long-term child outcomes reflecting benefits to society (i.e., prevention of abuse; high school completion; and prevention of risky behaviors such as substance use, violence, delinquency, and teen pregnancy). For some of the evaluations included in this paper, the prevalence of child maltreatment was the only—albeit a very important—child outcome measured.

Must show impacts beyond program participation. In order to estimate long-term benefits of parenting education programs, there must be evaluation evidence that goes beyond examining impacts upon program completion. Thus, evaluations examining or finding impacts only upon program completion are excluded from this paper. Unfortunately, most studies we considered for inclusion lacked longer-term follow-up data assessing whether earlier impacts were sustained (or new impacts emerged). Most evaluations included in this paper had a follow up period of between six months and two years after program completion, though one study examined reported child abuse/neglect between three and five years after program completion (Britner & Reppucci, 1997), and one study assessed maternal life course and child maltreatment outcomes and children's risky behavior outcomes at adolescence, 15 years after program completion (Olds, Eckenrode, & Henderson, 1997; Olds, Henderson, Cole, et al. 1998).

Finally, though not a selection criterion, we hoped that our search would yield a variety of parenting education approaches—universal, selected, and indicated programs; home visiting and

group-based models; high intensity/dosage and low intensity/dosage. This would allow for a broad examination of the "types" of parenting education programs that could prove to be cost-effective and, thus, worthy of consideration for greater societal investments.

Search Process

We searched for studies to include in this paper in three ways. The first was program identification. We identified popular and evidence-based parenting education programs through summary articles about parenting education and support,[13] parenting education program websites,[14] and through website searches of databases on promising or proven programs.[15] We then conducted a thorough search for evaluations of these well-known programs. We found evaluations primarily from the program's website reference section and from research journal database searches (e.g., ERIC, Web of Science, and JSTOR). This approach identified many parenting education programs but few that had been rigorously evaluated.

Our second method for identifying eligible program evaluation studies was through a more general keyword search of rigorous evaluations of parenting education programs. We used the keywords "parenting education," "evaluation," "random assignment," and "control group" to search Google Scholar, ERIC, JSTOR, and Web of Science. We combed through the abstracts of the search results and selected papers that satisfied our program and evaluation selection criteria.

Finally, our Pew project officer, Sara Watson (Project Director, Partnership for America's Economic Success, The Pew Charitable Trusts) and Pew partner Ann Segal (Senior Philanthropic Advisor for Disadvantaged Children and Families, Wellspring Advisors) nominated programs and studies. This nomination method was very successful in identifying the newest research for consideration.

Parenting Education Programs Not Included in this Paper

In addition to the studies included in this paper, we reviewed evaluations of a number of programs but chose not to include them because they did not meet one or of our inclusion

---

[13] For example, Gomby (2005); Karoly et al. (2006); Layzer, , Goodson, Bernstein, & Price (2001); and Hepburn (2004).

[14] For example, the Center for the Improvement of Child Caring (http://www.ciccparenting.org/); Nurturing Parenting (http://www.nurturingparenting.com/), Active Parenting (http://www.activeparenting.com/); Parents as Teachers (http://www.pat.org); The Incredible Years (http://www.incredibleyears.com); Families and Schools Together (FAST) (http://www.wcer.wisc.edu/fast); Systematic Training for Effective Parenting (STEP; http://www.lifematters.com/step.asp); Parents as Teachers (http://www.parentsasteachers.org), Healthy Families America (http://www.healthyfamiliesamerica.org/home/index.shtml).

[15] For example, SAMHSA's Model Program website, OJJDP's Model Program Guide, Cornell University's Parenting in Context Initiative, the Promising Practices Network, the Cochrane Collaboration, the Campbell Collaboration, Child Trend's Guide to Effective Programs for Children and Youth, and Harvard University's Evaluation Exchange.

criteria. A listing of programs we considered, and reasons for their exclusion, can be found in the Appendix.

We should point out that just because a program's evaluation has been excluded from our study, it does not mean that this program shows no evidence of effectiveness. In some cases, the evaluation designs were simply not as strong as those included in this paper. For example, some studies relied on retrospective comparisons of children whose mothers had and had not previously been exposed to a parenting education program. This retrospective quasi-experimental design introduces selection effects which need to be identified and controlled to rule out the possibility that program mothers and children were better off to begin with, which resulting in the more positive outcomes observed in the program group. Unfortunately, studies using this evaluation design typically did not identify or did not adequately control for such selection factors. Adequate controls include baseline measures of parenting and child outcomes targeted by the program.

Other studies did not include a comparison group at all; these outcomes-only studies benchmarked outcomes for study children to state or national norms on children's assessed development. While descriptive information on how program children compare to other at the state or national level, any differences cannot be attributed to the program for a number of reasons. First, differences could reflect historical effects if pro-preschool policies, cultural trends, or events occurred subsequent to when the national norming data were collected but prior to when study children were assessed. Second, state and national benchmark data typically reflect characteristics of the broader child population as whole. Evaluators would need to select a subsample reflective of the characteristics of the program sample being studied; otherwise, subsequent differences in outcomes could reflect pre-exiting differences in the composition of the program and benchmarked groups. Unfortunately, excluded studies using benchmark data did not select a sufficiently similar sample from among the state or national datasets, so program participant outcomes cannot be assumed to reflect impacts of the program.

In addition, we were unable to include many programs that do, in fact, have evidence of effectiveness from experimental or strong quasi-experimental evaluations, but they did not meet other criteria—such as evidence of impacts beyond program completion, or the ability to attribute these impacts to the parenting education component of a multi-component program (e.g., parenting education plus early childhood education).

Parenting Education Programs Included in this Paper

Exhibit 2 lists the evaluation studies that met our program- and evaluation-related selection criteria outlined in Section III.A, above. As it turns out, we were able to identify a variety of parenting education approaches—universal, selected, and indicated programs; home visiting and group-based models; and programs varying in intensity/dosage.

A description of the included programs and their evaluation findings follow. It is important to note that, despite the large and growing population of parents whose first language is not English, none of the included evaluations examined impacts separately among this group of language-minority families. And while some programs and/or their evaluations examine impacts separately for low-income families—which is likely correlated with being an English language

learner—it is unclear whether the included programs would have the same impacts for language-minority families.

Exhibit 2—Programs and Corresponding Evaluation Studies That Meet Our Selection Criteria

Program (Study citation)	Program Features			Evaluation Design and Findings					
	Age of Child at Outset	Parenting Education Program: Goal and Model	Target Populations	Evaluation Design (sample, design, follow-up period)	Impacts (for parent and child, by time frame)	Meaningfulness of Impacts[16]	Child Impacts Related to Future Functioning ?	Cost Effective?	Can Findings Be Used to Extrapolate ?
"Universal" Programs (for all parents)									
Families and Schools Together (FAST) (Kratochwill et al., 2004)	4-9	Promote child resiliency and reduce negative long-term outcomes Weekly and monthly parent meetings with child involvement	Originally designed for preschool-age children at risk for conduct problems (selected), now appropriate for all children ages 4-12.	Native American children in four lower-income Midwest communities. Matched pairs, random assignment. 9 to 12 month follow-up	Child (post): ↓ externalizing ↓ aggression ↓ withdrawn Child (follow-up): Earlier impacts maintained New impacts emerged: ↓ anxiety ↓ attention problems ↓ behavior problems ↑ academic competence	+/- Child problem behaviors and early academic competence predictive of later functioning, but don't know whether particular outcome measures and/or magnitude of impacts are clinically or educationally significant. + Earlier impacts maintained 9-12 months later, when new impacts also emerged.	+ Outcomes examined tend to be linked to later functioning in other research… - …but no long-term follow-up to assess future functioning in *this* sample.	Don't know	- No
"Selected" Programs (for at-risk parents/children)									
Early Head Start	Prenatal to age 3	To promote positive infant and toddler	Low-income families expecting a	Random assignment to EHS or control	Parents (post, at age 3): ↓parenting stress ↑emotionally supportive	-No impacts on harsh parenting at age 3 or at follow-up (age 4)	+ Outcomes examined tend to be	Don't know	No.

[16] This pertains to whether: (1) outcome measures and the magnitude of the impacts are clinically or educationally significant, and (2) immediate impacts are sustained.

Program (Study citation)	Program Features			Evaluation Design and Findings					
	Age of Child at Outset	Parenting Education Program: Goal and Model	Target Populations	Evaluation Design (sample, design, follow-up period)	Impacts (for parent and child, by time frame)	Meaningfulness of Impacts[16]	Child Impacts Related to Future Functioning ?	Cost Effective?	Can Findings Be Used to Extrapolate ?
(Love et al., 2002; Martin et al., 2007)		development ly by providing services directly to children and by providing supports—including parenting education—to parents. Home-based model focuses on parent education and support.	child or with children under age 3.	group. Though programs selected and were allowed to change their service delivery model (home-based, center-based, mixed model) during the study—which introduces selection effects—study findings pertain to programs that remained home-based throughout the evaluation.	↑ education and training activities <u>Child (age 3):</u> ↑engagement of parents <u>Parents (follow-up, at age 4):</u> ↑daily reading to child ↑number of books ↑parents' teaching activities ↑ supportive home environments ↑ monthly incomes Child (follow-up, age 4): ↓<u>behavior problems</u> ↑ <u>approaches to learning</u> ↑ <u>formal child care</u>	+/- Child problem behaviors and approaches ot learning predictive of later functioning, but don't know whether particular outcome measures and/or magnitude of impacts are clinically or educationally significant.	linked to later functioning in other research… - …but no long-term follow-up to assess future functioning in *this* sample.		
DARE to be You (Miller-Heyl et al., 1998)	2-5	To reduce the risk of substance use in children by increasing parenting and child	Higher risk families (i.e. low income, single parents, harsh parenting,	Families in four disadvantaged communities with 1+ risk factors for poor parenting.	<u>Mothers (post)</u>: ↑ internal locus of control ↑ sense of competence in parenting role ↑ satisfaction with parenting role ↑ communication	+/- Child problem behaviors predictive of later functioning, but don't know whether particular outcome measures and/or magnitude of impacts	+ Outcomes examined tend to be linked to later functioning in other research…	Don't know	- No

Program (Study citation)	Program Features			Evaluation Design and Findings					
	Age of Child at Outset	Parenting Education Program: Goal and Model	Target Populations	Evaluation Design (sample, design, follow-up period)	Impacts (for parent and child, by time frame)	Meaningfulness of Impacts[16]	Child Impacts Related to Future Functioning ?	Cost Effective?	Can Findings Be Used to Extrapolate ?
		competencies. 10 to 12 2.5-hour weekly parent workshops (including ½-hour parent-child activities)	low education, poor mental health or substance use)	Random assignment 2 year <u>follow-up</u>	↑ limit-setting ↓negative attributions for child behavior ↓harsh punishment <u>Child (post and FUP)</u>: ↑ developmental level ↓oppositional behavior ↓problem behavior	are clinically or educationally significant. +Impacts sustained at FUP.	- …but no long-term follow-up to assess future functioning in *this* sample.		
The Incredible Years[17] (Gross et al., 2003)	2-3	To increase parenting competencies and encourage parental involvement with schools, thereby increasing children's academic abilities, social development, and reduce risk	Children at risk of developing conduct disorders	2-3-year-olds in day care centers serving low-income African-American families in Chicago Random assignment of 11 child care centers to one of 4 conditions:	<u>Parent (post)</u>: ↓coercive discipline strategies ↓use of commands ↑self-efficacy ↑positive parenting behavior <u>Child (post)</u>: ↓anger, defiance <u>Parent (follow-up)</u>: Only impacts on self-efficacy and positive	+/- Child problem behaviors predictive of later functioning, but don't know whether particular outcome measures and/or magnitude of impacts are clinically or educationally significant. -Impacts on parents' negative outcomes disappeared at follow-	+ Outcomes examined tend to be linked to later functioning in other research… - …but no long-term follow-up to assess future functioning in *this* sample.	Don't know	- No

[17] While this particular study targeted a population at risk for developing conduct disorders (thus, reflecting an "selected" intervention), there are versions of the Incredible Years curriculum appropriate for universal and indicated populations, as well. See http://www.incredibleyears.com/IA/incredible-years-pyramid-program-integration.pdf)

Program (Study citation)	Program Features			Evaluation Design and Findings					
	Age of Child at Outset	Parenting Education Program: Goal and Model	Target Populations	Evaluation Design (sample, design, follow-up period)	Impacts (for parent and child, by time frame)	Meaningfulness of Impacts[16]	Child Impacts Related to Future Functioning ?	Cost Effective?	Can Findings Be Used to Extrapolate ?
		of conduct problems. 12 two-hour weekly parent classes with homework		parent training, teacher training, parent and teacher training, and wait-list control. 1-year follow-up	parenting behavior were sustained. <u>Child (follow-up)</u>: ↓anger, defiance (*among low-risk only*)	up. +/- Single child impact sustained—but only for low-risk subgroup			
Parent Education and Support for Teen Mothers (Britner & Reppucci, 1997)	New-borns	To prevent child maltreatment 12 weekly parenting education classes (home-grown curriculum)	Low-income, unmarried teen mothers with limited social support networks, and/or limited knowledge of important child development milestones.	African-American teens from urban VA community. Random assignment to: • Home visited program group (P) • Once-home-visited comparison group (VC) • Hospital comparison group (C) *P group systematically at *higher* risk	<u>Child (follow-up)</u>: Verified CAN (state records): P: <2% VC: 6.9% C: 7.3%	+ Outcome measure (prevalence of CAN) is clinically significant.	+ CAN shown to be linked to later functioning in other research… - …but no long-term follow-up to assess future functioning in *this* sample.	Don't know	+ Yes. CAN impacts can be extrapolated to estimate societal cost savings.

Program (Study citation)	Program Features			Evaluation Design and Findings					
	Age of Child at Outset	Parenting Education Program: Goal and Model	Target Populations	Evaluation Design (sample, design, follow-up period)	Impacts (for parent and child, by time frame)	Meaningfulness of Impacts[16]	Child Impacts Related to Future Functioning ?	Cost Effective?	Can Findings Be Used to Extrapolate ?
				than C groups Follow-up 3 to 5 years later					
Nurse Family Partnership (Olds et al., 1997; Olds et al., 1998)	Prenatal	To improve prenatal health and birth outcomes, foster healthy child development and safety, and improve maternal life outcomes. Biweekly hour-long home visits during pregnancy, weekly home visits until 21 months, monthly home visits until the child's 2nd	First-time mothers with 1+ risk factors (teen, unmarried, low SES).	400 first-time mothers in Elmira NY. Random assignment to: • Developmental screening (control 1) • Screening plus transportation to well-child visits for 2 yrs (control 2) • Screening, transportation, and nurse home visitors for 2 years (program	Mother (follow-up): *Among full sample:* ↓ verified CAN reports *Among low SES unmarried subsample:* ↓ subsequent births ↑ spacing between births ↓AFDC ↓ impairments due to alcohol, drugs ↓ arrests Child (follow-up): ↓running away ↓arrests ↓convictions & violations of probation ↓sex partners ↓alcohol ↓cigarettes ↓behavior problems	+ CAN outcome measure is clinically significant.	+Yes; study is a 15-year FUP of behaviors in adolescence (when children are 14-16 years old)	Net benefits to society (benefits-costs)= $17,180 per child. Cost-benefit ratio = 2.9[18]	+ Yes. CAN, arrest, and AFDC impacts can be extrapolated to estimate societal cost savings.

[18] Karoly et al. (2006). Table 4.4, p. 109.

Program (Study citation)	Program Features			Evaluation Design and Findings					
	Age of Child at Outset	Parenting Education Program: Goal and Model	Target Populations	Evaluation Design (sample, design, follow-up period)	Impacts (for parent and child, by time frame)	Meaningfulness of Impacts[16]	Child Impacts Related to Future Functioning ?	Cost Effective?	Can Findings Be Used to Extrapolate ?
		birthday.		group) 15-year follow-up	relating to alcohol, drugs				
Home Instruction for Parents of Preschool Youngsters (HIPPY) (Baker et al., 1998)	4 and 5 years old	To promote parent involvement in children's education and support parents as their children's teachers	Parents with limited education	Random assignment of two separate cohorts of children to either the program or control group 1-year follow up	<u>Child (Post):</u> Cohort I: ↑cognitive skills ↑classroom adaptation Cohort II: none <u>Child (follow-up):</u> Cohort I: ↑reading scores ↑classroom adaptation Cohort II: none	+Metropolitan Readiness Test and Metropolitan Achievement Test reflects child's mastery of school curriculum. Impacts have large effects sizes (.62 to .75). +/- Adaptation to the classroom predictive of later achievement, and impacts are sizable (.68-.69), but don't know whether impacts on this particular measure is educationally significant.	+ Outcomes examined tend to be linked to later functioning in other research… - …but no long-term follow-up to assess future functioning in *this* sample.	Net benefits to society (benefits - costs) = $1,351 per child. Cost-benefit ratio = 1.80[19]	Yes.
Reach Out	5 to 11	To promote	Low-income	Random	<u>Child (follow-up)</u>:	+/- Early vocabulary	+ Outcomes	Don't	- No

[19] Karoly et al. (2006). Table 4.4, p. 109.

Program (Study citation)	Program Features			Evaluation Design and Findings					
	Age of Child at Outset	Parenting Education Program: Goal and Model	Target Populations	Evaluation Design (sample, design, follow-up period)	Impacts (for parent and child, by time frame)	Meaningfulness of Impacts[16]	Child Impacts Related to Future Functioning ?	Cost Effective?	Can Findings Be Used to Extrapolate ?
and Read (High et al., 2000)	months old	development of early literacy skills Age-appropriate books and guidance on the importance of reading was provided to parents at child well-being visits	families	assignment to program or control group Follow up when children were 22 months old	*Among older toddlers:* ↑recognition and use of words	predictive of later reading skills, but don't know whether particular measure and/or magnitude of impacts are educationally significant.	examined tend to be linked to later functioning in other research. - …but no long-term follow-up to assess future functioning in *this* sample.	know	
Family Check Up (Shaw et al., 2006)	17 to 27 months old	To provide guidance on child management strategies while addressing other areas of family needs and well-being. Three home visits to assess, "get-to-know-you," and provide formal	Low-income families with boys	120 mother-son dyads from WIC offices showing 2+ risk factors (e.g., maternal depression, maternal substance abuse, child conduct problems) Random assignment to	<u>Mother (1 yr follow-up):</u> ns involvement <u>Mother (2 yr follow-up):</u> ↑ involvement <u>Child (1 yr follow-up):</u> ns aggression ↓ destructive *(esp. among boys at risk for conduct problems)* <u>Child (2 yr follow-up):</u> ns aggression ↓ destructive *(esp.*	+/- Child problem behaviors examined have been shown to be predictive of later functioning in other research, but don't know if magnitude of impacts is clinically or educationally significant. + Earlier impacts maintained 1 year later.	+ Outcomes examined tend to be linked to later functioning in other research…. - …but no long-term follow-up to assess future functioning in *this* sample.	Don't know	No

Program (Study citation)	Program Features			Evaluation Design and Findings					
	Age of Child at Outset	Parenting Education Program: Goal and Model	Target Populations	Evaluation Design (sample, design, follow-up period)	Impacts (for parent and child, by time frame)	Meaningfulness of Impacts[16]	Child Impacts Related to Future Functioning ?	Cost Effective?	Can Findings Be Used to Extrapolate ?
		feedback using motivational interviewing.		program or control group 1- and 2-year follow-ups (at ages 3 and 4)	*among boys at risk for conduct problems)*	+ Higher-risk boys experienced greatest impacts.			
"Indicated" programs (for parents/children already exhibiting problems)									
The Triple P-Positive Parenting Program (Sanders et al., 2000)	3 years old	To increase parenting competencies, thereby reducing conduct behaviors in preschool-age children. "Enhanced" program has added goals of helping parents manage feelings of depression, anger, stress, and anxiety. Standard (S): 10 one-hour session with a	Mothers and fathers of 3-year-olds with disruptive behaviors	Families with 1+ risk factors (depression, marital conflict, single parent, low income, or employment in low prestige job) and residing in low-income areas of Brisbane Australia Randomly assigned to one of 4 groups: S, SD, E, or a wait list control group 1 year follow-	<u>Mother (post)</u>: ↓ dysfunctional parenting (S, E vs C) ↑ sense of competence in parenting role (S, SD, E vs C) <u>Father (post)</u> ↓ dysfunctional parenting (S, E vs C) <u>Child (post)</u>: ↓ negative behavior (S, E vs C) ↓ disruptive behavior (S, SD, E vs C) More program than C children moved from clinical to non-clinical range on disruptive behaviors.	+ Impacts on children considered "clinically significant". + Post-program impacts on parents and children were sustained.	+ Outcomes examined tend to be linked to later functioning in other research… - …but no long-term follow-up to assess future functioning in *this* sample.	Don't know	- No

Program (Study citation)	Program Features			Evaluation Design and Findings					
	Age of Child at Outset	Parenting Education Program: Goal and Model	Target Populations	Evaluation Design (sample, design, follow-up period)	Impacts (for parent and child, by time frame)	Meaningfulness of Impacts[16]	Child Impacts Related to Future Functioning ?	Cost Effective?	Can Findings Be Used to Extrapolate ?
		therapist Self-directed (SD): self-administered S Enhanced (E): S plus 2 hours of communication skills and 2 hours of brief cognitive therapy.		up	<u>Mother and Child (follow-up)</u>: All impacts on parents and children were maintained 1 year later.				

Families and Schools Together (FAST)

FAST is designed to increase protective factors in children and empower parents to be involved in their children's lives. Originally designed as a "selective" intervention, it is now characterized as a "universal" intervention, appropriate for all children aged 4 to 12, and their parents, regardless of whether children are considered at risk for conduct problems. FAST is also intended to strengthen parents' relationships with their children's schools. The evaluation of FAST that met our criteria was conducted by Kratochwill, McDonald, Levin, Young Bear-Tibbetts, and Demaray (2004). Native American families with a child aged 4 to 9 participated in an eight-week FAST program. During sessions, parents spend adult time in support groups, and the families join together for family strengthening and play time. Classes meet for eight weekly sessions and participate in monthly reviews and social events. Activities include group crafts, communication exercises and family-strengthening projects like the development of a family flag. The program was implemented, with adaptations reviewed by the American Indian Language and Culture Education Board of Wisconsin, in three school settings: one public school (with white and Native American children), a rural school on a reservation, and an urban school (both with 100% Native American enrollment).

Children were matched on tribal heritage, school, grade, gender and teacher ratings of externalizing and internalizing behaviors and then randomly assigned to either control (n=50) or experimental (n=50) groups. Unfortunately, this evaluation did not measure parental outcomes; however, an extensive set of parent- and teacher-reported child outcomes relating to specific child behaviors and social skills were measured prior to intervention, immediately upon program completion, and one year later. Compared to stable or worsening behavior in the control group, teachers' reports of children's externalizing and aggressive behavior, and mothers' reports of children's withdrawn behaviors, improved post-intervention. These impacts were maintained—and in some cases, widened—9 to 12 months later. In addition, new impacts emerged at this later follow up: Program group children were rated by their elementary school teachers as less anxious, with fewer attention problems, fewer behavioral problems overall, and as more competent academically.

DARE to be You

The DARE to be You curriculum is a strengths based program designed to reduce the risk of substance abuse by building skills in: ***D***ecision making, ***A***ssertiveness, ***R***esponsibility, and ***E***steem for self and others. Variations of DARE to be You are designed for parents, preschoolers, and school-aged children. Miller-Heyl, MacPhee and Fritz (1998) examined the effectiveness of a set of 10 to 12 two-and-a-half-hour long parent workshops, which included a half-hour parent-child activity. The children, aged 2 to 5, also participated in classes designed to reinforce parental lessons during the parent workshops.

Program participants were recruited from four different areas: a Native American community, a sparsely populated Hispanic valley community, a semi-rural area and a highly transient urban community. All areas were characterized as disadvantaged, with high poverty, child abuse and teen pregnancy rates, and few employment and social service opportunities. Most families had at least one risk factor in the following areas that might "corrupt the child-rearing environment" (p. 265): parenting (foster or shelter placement, prior parenting class enrollment); educational

(school dropout, mother or father); economic (household income less than $15,000); mental health (sought individual or family therapy in past 6 months, sought other family problem help in last 6 months); substance abuse (own or spouse's family history of substance abuse, attendance at A.A. or Al-Anon); or psychosocial risk (teen mother, teen father, single parent, social isolated or residence in a community with high rates of substance abuse).

This study employed a random assignment design and analyzed findings from two years of cohorts: 227 intervention and 136 control parents with one-year follow up data, and 137 intervention and 50 control parents with one- and two-year follow up data. Across both cohorts, the program improved program parents' internal locus of control and their sense of competence and satisfaction in the parenting role by the one-year follow-up. Program parents were also less likely (whereas control group parents were more likely) to make negative attributions about their child's behavior (e.g., "they don't try hard enough") one year after program completion. Regarding actual parenting practices, program parents improved in communication, limit-setting, and decreased their use of harsh punishment one year later, whereas control parents maintained or worsened on these outcomes over time. Program children showed greater improvement than control children on measures of oppositional behavior, problem behavior in general, and developmental level one year after program completion.

The Incredible Years

The Incredible Years curricula series has different programs for parents, teachers and children. The parent training is designed to increase parenting competencies and encourage parental involvement in school and child care settings with the goal of improving children's academic ability, social development and of reducing conduct problems. Gross, Fogg, Webster-Stratton, Garvey, Julian, and Grady (2003) evaluated this program provided to parents of 2- and 3-year-old child care attendees.

Eleven Chicago-area child care centers that serve primarily low-income families participated in this study. These centers were randomly assigned to one of four conditions: only parents receiving the Incredible Years training, only teachers receiving the Incredible Years training, both parents and teachers receiving Incredible Years training, and a no-treatment wait-list control group. (After one year of no intervention, parents in the control group centers received the parent training.) The final sample consisted of 208 parents, split among the four groups. Sixty percent of parents were African American and 30 percent were Latino. Forty-three percent had a high school degree or less, 70 percent were employed (56% full-time; 13 % part-time), and 36 percent were married.

The parent training component lasted for 12 weeks. The parents meet weekly for two hours to watch videotaped parent-child interactions and were led in a subsequent discussion by nurses. Parents also completed homework assignments designed to increase parent-teacher collaboration.

At program completion, parents in the program group reported higher self-efficacy and using fewer coercive discipline strategies, and had higher observer-rated positive parenting behaviors (i.e., fewer commands, a greater ratio of positive-to-negative parenting behaviors) than parents in the control group. Program parents also used fewer commands with their children than control group parents. Impacts on parents' self-efficacy and ratio of positive-to-negative parenting

behaviors remained one year later; however, the early impacts on the use of commands and coercive discipline strategies disappeared by the one-year follow-up. (Program parents' coercive discipline strategies returned to pre-intervention levels and were no longer different from the control group; program parents' commands remained low but control group parents' commands subsequently dropped as well.)

The program had no impacts on five measures of parent-reported child behavior problems, nor on an observer-rated measure of negative child behaviors, at program completion or at the one-year follow-up. The sole impact on children related to negative classroom behavior ("anger/defiance") rated by child care teachers: Among children with "high" anger/defiance scores at baseline, program children were more than twice as likely as control group children to have "low" anger/defiance scores post-intervention (44% vs. 18%, respectively), though these impacts faded out by the one-year follow-up (when approximately 88 percent of all children, regardless of treatment group, had improved since baseline). Among children with "low" anger/defiance scores at baseline, program children were less likely than control group children to have "high" anger/defiance scores both post-intervention (2% vs. 6%, respectively) and one year later (9% vs. 14 %, respectively). So the program appears to have staved off a decline in classroom behavior but did not improve classroom behavior beyond termination of the intervention.

Thus, the Incredible Years program improved parenting on multiple fronts, with many impacts lasting for one year, whereas impacts on children were more limited and concentrated on the important outcome of negative classroom behaviors.

Nurse Family Partnership

The Nurse Family Partnership (originally called the Prenatal/Early Infancy Home Visitation by Nurses) provides in-home parenting education on nutrition, infant development, and health and safety by public health nurses to first-time mothers with one or more of the following risk factors: low SES, teen parent, unmarried. Program goals are to improve prenatal health and birth outcomes, foster healthy child development and safety, and improve maternal life outcomes regarding healthy behaviors, subsequent pregnancies, education, and future work. Enrolled mothers received biweekly hour-long home visits during pregnancy, weekly home visits until 21 months, monthly home visits until the child's second birthday.

Four hundred mothers in Elmira, NY were randomly assigned to one of three research groups: a control group that received developmental screenings, a second control group that received screenings plus free transportation to well-child visits for two years, or the program group, which received screenings, transportation, and nurse home visitors for two years. In their 15-year follow-up of program impacts, Olds and his colleagues (Olds et al. 1997; Olds et al. 1998) found that home-visited children experienced fewer arrests, convictions, and probation violations when they were between 14 and 16 years old. Among children of low-income single mothers, home-visited children also used alcohol and drugs less frequently and had fewer sex partners than their control group counterparts. Among children from homes not experiencing severe domestic violence, home-visited children were less likely to have experienced substantiated child abuse over the 15-year period. Many program mothers also benefited in the long-term: the poorest unmarried mothers receiving home visiting had fewer pregnancies, less substance abuse, less

involvement with the criminal justice system, and spent less time receiving AFDC or food stamps during the 15-year period compared to their control group counterparts.

Home Instruction for Parents of Preschool Youngsters (HIPPY)

The Home Instruction for Parents of Preschool Youngsters (HIPPY) program is a home-visiting model designed to teach lower income mothers educational ways to interact with their children. Mothers are provided books to read to their children and activities to conduct with their children to increase language, sensory and perception discrimination, and problem solving cognitive skills. Paraprofessional HIPPY representatives visit mothers bi-weekly and role model how to use the activities and readings. On alternate weeks, mothers and HIPPY staff meet in a group setting for informal conversation, group activities and the distribution of that week's activity packet. The program is designed for parents of preschool-aged children to help ease the transition to kindergarten and formal schooling.

In an evaluation by Baker, Piotrkowski and Brooks-Gunn (1998), parents participated in a two-year HIPPY program, starting when their children were four and ending after the child finished kindergarten. All children were drawn from the same preschool in a large city in New York. Two cohorts of children were chosen to participate in the study—one that entered preschool in 1990, the second entered preschool in 1991. Each cohort was randomly assigned to HIPPY (n=37 in Cohort I, and n=47 in Cohort I) or to a control group (n=32 in Cohort I, and n= 66 in Cohort II). Over two-thirds of families were of color, and although 40% of parents reported some education beyond high school, over a third said that public assistance was their primary source of income. Additionally, for 34 percent of families, English was not their primary language.

The study collected baseline, post-program, and one year post-program data on the children. At the end of first grade and start of second grade (i.e., one year after HIPPY program completion), program children in Cohort I displayed significant gains over their control counterparts. The program children had a Metropolitan Achievement Test reading score that was, on average, 16 points higher than control children (effect size = .75). Additionally, their second grade teachers rated them, on average, almost one point higher on a 5 point classroom adaptation scale (effect size = .68). These advantages were not, however, present for Cohort II. Treatment and control children in Cohort II did not differ on any outcome measure. The authors could not explain the lack of findings for Cohort II by attrition rates, demographic data or dosage of HIPPY program received.

Reach Out and Read

Reach Out and Read is a low intensity program designed to teach parents the importance of reading to their children and to instill reading as a daily parent-child activity. The program is aimed at low-income parents and operates through pediatric offices. When parents come for child well-being visits, they are provided with an age-appropriate book and pamphlets on the importance of reading and ways to increase the number of days they read to their children, such as making reading part of their bedtime routines. Goals of the program also include increasing toddlers' receptive (words they recognize) and expressive (words they say) vocabularies.

In the evaluation conducted by High, LaGasse, Becker, Ahlgren and Gardner (2000), 205 low-income parents were approached in urban community-based health care centers. Parents were eligible for participation if: they could speak English well enough to be interviewed; they were the child's primary caregiver; the child was between 5 and 11 months old; the infant's birth weight was above 5 pounds; the infant did not have any significant developmental delays; and, the infant had never been hospitalized for more than two weeks. About 90 percent of parents in the study were female, about a fifth were white, 75 percent spoke either English and another language or only another language at home, 40 percent were employed, and many participated in Medicaid (over 75%), AFDC (47%) or WIC (over 92%).

Families were randomly assigned to the program or control group based on the day their doctor visit occurred (even or odd date). If parents entered the program when their child was 6 months or younger and went to all child-well being visits, they could receive up to five books (i.e., at the 6-, 9-, 12-, 15-, and 18-month well-child visits). Follow-up data was collected either when families completed three child well-being visits or when the child turned 22 months old. The evaluators were able to successfully interview 153 (75%) of the original 205 families. The main outcome, child vocabulary, was measured using a modified version of the MacArthur Inventories. Parents were asked whether their child understood or said each word from a hundred word list. Fifty of the words were present in books provided during the intervention; the other fifty were not. Analyses separated children into younger (13–17 months old) and older (18– 25 months old) groups based on evidence that vocabulary mastery significantly increases at a year and a half. Younger children did not demonstrate any differences in vocabulary by program or control group. However, older toddlers in the program group demonstrated increased knowledge and use of vocabulary compared to their peers in the control group. On average, program children knew 16 of 100 more words (8 of the 50 words in the books; 8 of the 50 not in books) and said 15 more words (evenly distributed among the subsets in and not in books).

The Family Check-Up

The Family Check-Up seeks to provide parents with guidance on child behavior management strategies, as well as assess and seek to meet their other family needs relating to, for example, parental depression, social support, marital quality, child care, employment, and housing. The Family Check-Up—modeled after the Drinker's Check Up (Miller & Rollnick, 2002)—directly targets parents' motivation to change by using "motivational interviewing" during each of its three sessions. The first session is the broad assessment of family needs, the second session is a "get to know you" meeting with the family, and the third session is a formal feedback session during which the parents and parent consultant (a Masters-level therapist) discuss a menu of strategies for improving parenting and achieving other family goals.

Study participants were 120 mother-son dyads recruited from WIC centers in metropolitan Pittsburgh. Families with 17-27-month-old boys who reported risk factors (e.g., maternal depression, substance abuse, parenting hassles, and the child's disruptive behavior and emotionality) were eligible for the study. Mothers' average age was 27, about half were African-American, 40 percent were Caucasian, half had never married, two-thirds had a high school education or less, and the average family income was just over $15,000 per year.

Families were randomly assigned to either a program group or a no-treatment control group. Data were collected at baseline and again one and two years later (when the boys were 3 and 4 years old, on average). Parents received $100 for participating in the initial assessment, and $125 for participating in the one-year and two-year follow-ups.

Findings indicate improved maternal involvement in the program group between the initial assessment and the one-year follow-up, whereas control group mothers' involvement declined during this period. Improvement for program mothers was sustained at the two-year follow-up, whereas control group mothers' involvement dropped even further. And while there were no impacts on children's aggression at either time point, there were impacts on children's destructive tendencies: The reduction in destructive tendencies was greater for program than control group boys, with effect size of .64 at age 3 and an effect size of .45 at age 4.

The Triple P Positive Parenting Program

The Triple P Positive Parenting Program is a multi-level, behavioral family intervention (BFI) designed to reduce conduct problems in young children. Sanders, Markie-Dadds, Tully and Bor (2000) tested three versions of the Triple P program: the standard (SBFI), the self-directed (SDBFI), and the enhanced Triple P (EBFI). The standard Triple P taught child management skills over 10 one-hour individual sessions with a therapist. The self-directed version contains the same content matter as the standard but has been adapted to be self-administered. The enhanced version offers the standard Triple P program along with two hours of communication skills training and two hours of brief cognitive therapy to help parents manage their feelings of depression, anger, stress, and anxiety. Regardless of the program model, both mothers and fathers received the Triple P program.

Study participants were 305 Australian parents residing in low-income neighborhoods with a three-year-old child. Parents were screened, and only those parents who reported that they were concerned about their children's behavior and that they had a key family stressor (maternal depression, marital conflict, single parenting, and low income or employment in a low prestige job) were eligible for the study. Most were white, in their early thirties, married, and working class.

The evaluation design randomly assigned families to one of three treatment conditions or to a wait-list control group. While there were no impacts on observed negative mother behaviors, both the SBFI and EBFI program reduced both mothers' and fathers' self-reports of "dysfunctional" parenting (characterized as lax, overreactive, and verbose reprimands) relative to the control group post-intervention, and all three programs improved mothers' (but not fathers') self-reported sense of parenting competence. These impacts were maintained one year later.

Regarding impacts on children, both the SBFI and EBFI program reduced children's observed negative behavior, and reduced both mothers' and fathers' reports of children's disruptive behavior, relative to the control group post-intervention. The SDBFI reduced mothers' reports of children's disruptive behavior relative to the control group post-intervention. As with impacts on parents, these impacts were maintained one year later. Some impacts were clinically important—for example, children in the program groups were more likely than children in the

control group to move from the "clinical" to the "non-clinical" range on mothers' reports of disruptive behavior.

Parenting Education Program for Teen Mothers

This program in this evaluation does not have a specific name, but is characterized as a group parenting education and support program for at-risk teen mothers in Virginia designed to prevent child maltreatment. The 12-week program for teen mothers and their children provides education on topics such as bonding, communication, discipline, child development, reproductive health and substance abuse and serves as a support group.

Britner and Reppuci (1997) employ a strong quasi-experimental design taking into account the program's goal of providing support to those most in need. Teen mothers were approached in the hospital within 36 hours of birth. Those deemed at greatest risk (i.e., unmarried, low income, socially isolated, and/or those with limited knowledge of important child development milestones) were asked whether a staff member could visit them at home. Two weeks later, program staff visited the mother in the home to talk about infant care, administer the Adult-Adolescent Parenting Inventory (AAPI; Bavolek, 1984), and to offer enrollment in the program. The highest risk teen mothers were targeted for enrollment, but lower risk teen mothers were also allowed to enroll in the program.

They employed two comparison groups: (1) a hospital comparison group (teen mothers visited in the hospital but not deemed high enough risk for a home visit or enrollment in the program), and (2) a home visit comparison group (teen mothers visited at home but not enrolled in the program). Based on baseline AAPI scores, the program group showed greater parenting risk than the hospital comparison group, but there were no differences in parenting risk between the program group and the in-home comparison group. Thus, differences in outcomes between the program and hospital comparison group will underestimate program impacts, whereas differences in outcomes between the program and in-home comparison group will accurately indicate impacts among a group of teen mothers at similar levels of parenting risk.

Mothers in the program ranged in age from 11 to 20, with an average age of 15. Over 95 percent were African-American. A total of 535 mothers participated in the group classes over the three years of the study. When the study children were 3 to 5 years old, the evaluators searched the state's database for abuse and neglect for instances when the child was abused and the mother was the perpetrator or co-perpetrator. Rates of founded abuse differed significantly among the three groups: less than two percent of the program group had founded reports, compared to 6.7 percent of the hospital comparison group mothers and 7.3 percent of the home visit comparison group.

Early Head Start

In 1994, the Secretary's Panel on Services for Families with Infants and Toddlers recommended the creation of a two-generation program aimed at low-income families with pregnant women, infants, or toddlers (under age three). In 1995 and 1996, the Administration for Children and Families (ACF) in the U.S. Department of Health and Human Services (DHHS) funded the first

143 Early Head Start programs; today, Early Head Start (EHS) serves over 70,000 children in over 700 communities across the country.[20]

The DHHS Secretary's Panel also recommended a strong research and evaluation component to EHS; this recommendation was adopted in both the 1994 and 1998 Head Start reauthorizations, which required a national evaluation of EHS. DHHS funded Mathematica Policy Research, Inc. and Columbia University's Center for Children and Families to conduct a random assignment evaluation of 17 EHS programs serving over 3,000 families in 1995 (Love, Kisker, Ross, Schochet, Brooks-Gunn, Paulsell, Boller, Constantine, & Vogel, 2002.)

EHS seeks to promote positive development in young children directly by providing services to the children and by providing supports to parents through parenting education and by promoting parents self sufficiency and healthy family functioning. Services can be provided primarily in the home by trained home visitors, primarily in child care centers, or in both home and centers (a "mixed" model). Like other home visiting programs, home-based EHS programs focused predominantly on parenting education and supports. Thus, findings on the impacts of EHS *home-based* programs most directly represent the impacts of *parenting education* offered through EHS.[21]

Overall, by the end of the program (at age three), EHS home-based programs had relatively few impacts on the measures of child outcomes examined in the evaluation, with no impacts on measures of cognitive and language development or on indicators of children's health. However, compared to the control group, parents receiving EHS home-based services were observed during semi-structured play interactions to be more emotionally supportive of their three-year-old children (effect size=.16), and their children displayed greater engagement of their parents than did parents in the control group (effect size=.19). EHS home-based parents also reported less parenting stress than did parents in the control group (effect size=-.14)—an impact not found for EHS parents attending center-based or mixed model programs. Parents receiving EHS home-based programs also had higher rates of involvement in education and training activities than control parents (effect size=.15). The evaluators note that home-based programs reaching full implementation "had significant favorable impacts on cognitive and language development at age 3 that have not generally been found in evaluations of home-visiting programs"(Love et al., 2002, p. 7).

Two years after program completion, children who had been in EHS home-based programs showed fewer behavior problems (effect size=-.13), higher scores on approaches to learning (effect size=.18), and were more likely to be in formal child care arrangements (effect size=.13) than children in the control group. There were no impacts on the child's aggressive behavior, the child's negativity and engagement observed during play with a parent, or the child's achievement-related outcomes (sustained attention, letter-word identification, and applied

---

[20]Downloaded from http://www.acf.hhs.gov/programs/opre/ehs/ehs_resrch/ehs_aboutus.html, April 19, 2008.

[21]Parenting education was also offered in center-based and mixed models, so we are not obtaining a full picture of the impacts of parenting education as provided by all EHS program models. The parenting education offered in EHS center-based and mixed models takes place in "family support" home visits that take place at least twice a year.

problem-solving). This pattern of impacts mirrors those found for center-based and mixed models as well.

Although the evaluation found no impacts on parents' observed supportiveness or negativity or on parents' reports of spanking, home-based EHS did increase daily reading to the child (effect size .16), number of books in the home (effect size .14), and parents' teaching activities (effect size=.15). The home environments of home-based EHS families were also rated as more supportive than families in the control group (effect size=.25). These impacts also generally mirrored those found for center-based and mixed models, with one exception. Two years after program completion, only EHS home-based families experienced higher monthly incomes than control families: $2,388 compared to $2,106 (effect size=.16); this impact was not found for EHS center-based or EHS mixed model programs (Martin, Chazan-Cohen, Brooks-Gunn, Raikes, Love, Kisker, Vogel, Jones-Harden, 2007).

In fact, the authors note that impacts of home-based EHS programs were among the most numerous and strongest impacts on children and parents found two years after program completion. Evaluators suspect that this is related to the positive impact of EHS home-based programs (but not the other program models) on participation in formal care following EHS. This explanation is consistent with the pattern of impacts found at program completion, when mixed-model programs produced the largest and most numerous impacts on parenting and child outcomes in general and center-based programs produced more impacts on cognitive development specifically, leading the evaluators to surmise that families may benefit most from programs providing both parenting and early childhood education in both home-based and center-based settings.

What About Other Well-Known National Program Models?

Given the focus and goals of this paper, it was necessary to exclude program evaluations that did not meet our admittedly strict evaluation criteria. Specifically:

- **Healthy Families America (HFA)** was excluded because their evaluations (DuMont et al., 2006, DuMont et al., 2008) do not (yet) have long-term follow-up data to indicate whether early promising results could be sustained after the intervention ended.

- **Parents as Teachers (PAT)** was excluded either because their evaluations either did not employ an experimental or strong quasi-experimental design (Coleman et al., 1997; Pfannenstiel & Seltzer, 1985; Pfannenstiel & Seltzer, 1989a; Pfannenstiel & Seltzer, 1989b; Pfannenstiel et al., 1991 ; Pfannenstiel et al., 1996; Pfannenstiel, 1999; Pfannenstiel et al. 2003; Pfannenstiel & Zigler, 2007; Zigler et al. 2008) or they did not include a follow-up (Pfannenstiel & Seltzer, 1985; Pfannenstiel & Seltzer, 1989a; Pfannenstiel et al., 1991; Wagner & Clayton, 1999a; Wagner et al., 1999b; Wagner et al., 1996; Wagner et al., 2002; Wagner et al. 2001; Wagner & Spiker, 2001; Drotar & Hurwitz, 2005; Drotar et al. 2005), or follow-up impacts on children were not statistically significant (O'Brien et al., 2002).

- Similarly, the **Parent-Child Home Program (PCHP)** was excluded because its evaluations either did not employ an experimental or strong quasi-experimental design (Levenstein & O'Hara, 1978; Madden et al., 1984; Levenstein et al. 2003; Allen et al., 2007), or they did

not conduct a follow-up (Levenstein & O'Hara, 1978), or follow-up impacts on children were not statistically significant (Madden et al., 1984; Levenstein et al. 1998).

However, because evaluations of these well-known and widely disseminated programs have shown some promising findings, we did not want to dismiss them altogether. Below we highlight some promising findings for Healthy Families America, Parents as Teachers, and the Parent-Child Home Program.

Healthy Families New York

Healthy Families America (HFA) is a national program model designed to "promote positive parenting and parent-child interactions, enhance child health and development, and prevent child abuse and neglect."[22] HFA uses paraprofessional family support workers to provide an array of comprehensive, intensive, strengths-based home visiting services and referrals to expectant parents. Today, HFA programs exist in over 430 communities in the U.S. and Canada.

Healthy Families New York (HFNY) was established in 1995 by the New York State Office of Children and Family Services; in 2005, HFNY provided services to an estimated 5,500 families in 29 sites across the state, at an annual budget of $17.6 million (DuMont, Mitchell-Herzfeld, Greene, Lee, Lowenfels, Rodriguez, & Dorabawil, 2008). HFNY family support workers teach about child development and positive parent-child interactions, provide assistance in accessing health care and other services the family may need, and develop an Individual Family Support Plan to help families' economic stability and well-being. Enrolled parents receive biweekly home visits during pregnancy and weekly home visits during the infant's first six months, with the frequency diminishing to biweekly, monthly, then quarterly until the target child is five years old or enters school.

DuMont and her colleagues (2008) evaluated the impacts of the HFNY program on child abuse-related outcomes. They randomly assigned 1,297 participants to either the HFNY program or to a control group who did not receive HFNY services. They were particularly interested in finding out whether, like the Nurse Family Partnership program (Olds et al. 1997; Olds et al. 1998), HFNY prevents child abuse and neglect (CAN) only among first-time parents with no prior history of CAN (whom they call the "prevention" subgroup), or whether HFNY was also effective in reducing CAN among the more heterogeneous full sample, which included current parents and parents with some prior history of CAN. They were also curious as to whether the HFNY program might be especially effective for psychologically vulnerable mothers.

There was no evidence that the HFNY program affected the prevalence of s*ubstantiated CAN reports*—either in the full sample or in any of the subgroups studied. However, there is strong evidence that the HFNY program reduced the frequency of *self-reported* indicators of abusive parenting in the full sample, and reduced the prevalence of self-reported indicators of abusive parenting in the prevention subgroup and among psychologically vulnerable mothers. For example, among psychologically vulnerable mothers, those in the HFNY program reported fewer acts of serious abuse or neglect (.02, compared to .62 in the control group) and a lower

[22] http://www.healthyfamiliesamerica.org/about_us/index.shtml, downloaded on March 24, 2008.

prevalence of serious abuse or neglect in the second year of the program (5 percent, compared to 19 percent in the control group). Impacts of HFNY on the more diverse full sample of mothers were more limited and largely dissipated by Year 2, though a new impact emerged in Year 2: The frequency of self-reported serious physical abuse was lower in the HFNY group (.01, compared to .04 in the control group). The evaluators conclude that home-based parenting education programs may be most effective with first-time parents with no prior history of child abuse or neglect.

Year 3 data collection was recently completed, when target children were three years old. HFNY and control group mothers were re-interviewed, target children were interviewed for the first time, and a subsample of mother-child pairs were observed in their homes to assess the quality of the mother's parenting and the preschooler's behavior during four structured play tasks. Each task provided mothers an opportunity to display such parenting behaviors as attending to the child, providing stimulation, and offering guidance and support; children were assessed on such outcomes as cognitive maturity, self-control, and goal persistence (DuMont, Rodriguez, Mitchell-Herzfeld, Walden, Kirkland, Greene, & Lee, 2008).

To assess program impacts, the evaluators created three composite parenting measures from the observational data: one reflecting positive parenting, and two reflecting negative parenting (harsh parenting, role reversal). They found a greater prevalence of positive parenting the HFNY than the control group, but only in the full sample. For example, during the Delay of Gratification Task, 17.2 percent of HFNY mothers but only 10.6 percent of control group mothers displayed such positive parenting behaviors as praise, use of leading questions, and eliciting child knowledge. With respect to harsh parenting, there were no impacts in the full sample; rather, impacts were concentrated in the prevention subgroup. For example, during the Delay of Gratification Task, 5.3 percent of HFNY mothers in the prevention subgroup but 23.8 percent of control group mothers in the prevention subgroup displayed harsh parenting behaviors such as scolding, use of threats, coercion, criticism, and being physically rough with the child. There were no impacts, in the full sample or the prevention subgroup, on negative parenting in the form of role reversal.

HFNY and its rigorous evaluations were excluded from this paper because there are currently no follow-up data to indicate whether promising results during the first three years are sustained once the five-year intervention ends. However, recent funding will allow HFNY to study mothers and their children through their seventh birthday—two years after program completion. These follow-up data will show whether program children have lower aggression, better impulse control, and favorable health and cognitive outcomes—predictors of juvenile delinquency—and whether any such longer-term benefits outweigh program costs.

Parents as Teachers Program

Parents as Teachers (PAT) is a national organization that seeks to "increase parent knowledge of early childhood development and improve parenting practices; provide early detection of developmental delays and health issues; prevent child abuse and neglect; and increase children's

school readiness and school success."[23] PAT trains professionals in the Born to Learn model, which includes four program components: (1) a research-based curriculum used during periodic home visits to teach parents how they can promote their child's development and foster positive parent-child relationships; (2) parent group meetings; (3) vision, hearing, and developmental screenings; and (4) connecting families to other family services in the community. PAT began in 1981 in Missouri as a pilot parenting education program for parents of newborns. In 1985, the state appropriated funding to implement PAT in every Missouri school district. Today, PAT can be found in all 50 states and in other countries.

From the outset, PAT was conceived as a demonstration project, with a strong focus on evaluation. Using a strong experimental design, Wagner and her colleagues used an experimental design to examine impacts of PAT in three communities. Two of these sites experienced large attrition during the program. In reporting impacts from the one community with adequate program retention throughout the 3-year program, Wagner, Iida, and Spiker (2001) found positive impacts on mothers' happiness in caring the child, looking at and reading books to the child, and on how much they talk to the child while reading when the child was 1, but not at age 2 or 3. There were no statistically significant impacts—at ages 1, 2or 3—on parenting knowledge, the home environment, or on parent-child interactions (i.e., sensitivity to the child's cues, response to the child's distress, fostering the child's socio-emotional growth, and fostering the child's cognitive growth). The authors notes that many experimental-control group differences reflect moderate to large effect sizes (e.g., .34 to .81), but they were not statistically significant due to small samples sizes (~50 in each group). This study was excluded from our paper because it lacked follow-up information to see if impacts were sustained after program completion.

Parent-Child Home Program

The Parent-Child Home Program began in 1965 as the Mother-Child Home Program of the Verbal Interaction Project, with the goal of "promoting school readiness and academic success by strengthening parent-child verbal interaction and reading and play activities in the home."[24] Trained home visitors conduct a series of 46 free, twice-weekly home visits to families in the first two years of their babies' lives. The program targets low-income families, who are enrolled through local clinics or other community agencies. "Teaching demonstrators" (home visitors) bring books and toys and model various reading and play activities for parents; they also model verbal interaction and positive emotional responses to the child (e.g., verbalizing affection toward child, clearly stating expectation for the child). Today, the Parent-Child Home Program model is operating in over 150 "replication sites" across the U.S. and in nine international sites.[25]

Levenstein and her colleagues (1998) capitalized on an earlier experimental design to explore the long-term impacts of the Mother-Child Home Program (MCHP) 16 to 20 years after program completion. They retrospectively identified 108 youth in the Pittsfield, Massachusetts, school

---

[23] http://www.parentsasteachers.org/site/pp.asp?c=ekIRLcMZJxE&b=272092, downloaded on April 7, 2008.

[24] http://www.parent-child.org/aboutus/ourhistory.html, downloaded on March 27, 2008.

[25] http://www.parent-child.org/localsites/index.html, downloaded on March 27, 2008.

district whose parents had received the MCHP and 15 youth, also still in the Pittsfield school district, from the control group whose parents had not received the MCHP; six of these students were still in high school at the time of the follow-up. Thus, the sample size for the follow-up analyses was 117, comprising 56 percent of the original sample of 209 at-risk toddlers. Using "intent-to-treat" analyses, which preserves the random assignment design, Levenstein and her colleagues first found a trend ($p<.08$) toward larger graduation rates for youth enrolled in the MCHP (77 percent vs. 54 percent in the control group). However, due to systematic attrition, such that control group youth had lower IQ scores at baseline than did MCHP group youth. When Levenstein and her colleagues controlled for this compositional difference in the program and control groups, they found no statistically significant difference in high school graduation rates between program and control groups ($p=.28$). Nevertheless, they report that the MCHP effectively increased graduation rates, pointing out the large effect size (odds ratio =2.12), arguing that the small sample size of the control group prevented this effect from reaching statistical significance. However, we excluded this study from our paper because we found other studies that provided stronger evidence of long-term impacts.

More recently, Allen and her colleagues (2007) evaluated the impacts of the PCHP program on literacy skills, social-emotional skills, and parental support for children's learning at school entry. They studied 135 kindergartners in five Long Island schools, 78 of whom had participated in the PCHP 18 months earlier (when they were between 2 and 3 years old), and the remaining 57 were randomly selected peers from the same kindergarten classrooms.

Because random assignment was not used to create the comparison group, the two groups differed in important ways, suggesting greater risk for poorer outcomes in the program group (e.g., lower parental education, longer parental work hours, and greater proportion of Latino families). This non-equivalence of program and comparison groups, favoring the control group, amounts to a conservative test of the program's effectiveness. That is, program aside, one would expect comparison group children to show better outcomes than program children; even if the program were effective, it may do no more than raise program children's literacy and socio-emotional skills to levels comparable to those in the comparison group. Thus, outcomes on which the program and comparison groups do not differ—and certainly outcomes on which the program group outperforms the comparison group—may be suggestive of PHCP's effectiveness.

The authors found—as expected—in most cases, comparison group children fared better than program children, even when controlling for parents' education level. In some cases, however, the program group *fared as well as* the comparison group—for example, parents in each group showed comparable levels of learning-supportive behaviors (e.g., trips to the library), and their children showed comparable levels of socio-emotional skills (e.g., self-control). In addition, among children whose parents had more than a high school education, program children showed levels of early reading skills (e.g., recognition of letters, reading comprehension) comparable to those in the comparison group. And among children whose parents had a high school degree or less, program children had levels of self-control and "verbal expression of needs" comparable to those in the comparison group. In only a few cases did program children *fare better than* comparison children, providing strong evidence of PCHP's impacts: Among less educated families program children showed greater self-control than comparison children, and among African-American families program children showed greater receptive vocabulary than comparison children.

Unfortunately, we had to exclude this evaluation from our paper because there may have been additional differences in the program and comparison groups on key variables at the outset (e.g., baseline measures of outcomes) that remain unaccounted for and that may have, at least in part, contributed to the findings. There were other studies that provided stronger evidence of long-term impacts.

Evidence of Effectiveness

What is the evidence from the ten high quality program evaluations included in this paper that:

- Parenting was effectively changed by these parenting education programs?
- Children were affected by their parents' involvement in these parenting education programs?
- Impacts on parents and/or children were not only statistically significant, but also "clinically" or "educationally" significant? That is, to what extent were impacts clearly interpretable and important for children's current or future functioning, reflecting meaningful differences in the lives of families?
- Parenting education programs can be cost-effective interventions?

Impacts on Parenting and Children

These studies show that mothers and their children can benefit from parenting education programs. Taken together, these studies show that parents' knowledge, skills, sense of efficacy in the parenting role, and parenting practices can be positively affected during the course of intervention, and impacts can last from one to three years, with one study showing impacts up to five years later (Britner & Reppucci, 1997), and another study showing impacts a full 15 years later (Olds et al. 1998; Olds et al. 1997). These parenting education programs also show that children's antisocial behaviors (e.g., aggression, oppositional behavior), safety (child maltreatment) and, in some cases, development (e.g., pre-literacy skills), can be affected. Many program impacts lasted a year or more, though longer term impacts (beyond one year) appear concentrated only among certain groups of children. These are likely underestimates of program impacts: Since most evaluations only tracked participants for one to three years following program completion, we do not know if program effects would continue to persist. Given that all of these evaluations did show some impacts post-program completion, it is possible that participation in parenting education would be associated with more positive parent and child outcomes even further in the future.

Meaningfulness of Impacts for Long-term Child Functioning

Three of the ten studies included in this paper examined outcomes that were readily interpretable (e.g., child maltreatment) or for which clinically- or educationally-significant levels of change have been empirically established (e.g., conduct problems). For example, Sanders et al.'s (2000) evaluation of the Triple P-Positive Parenting Program drew from previous research that distinguishes clinical from non-clinical levels of children's disruptive behaviors, and found that children in the program groups were more likely than children in the control group to move from

the "clinical" to the "non-clinical" range on this measure of disruptive behavior. The other two studies with readily interpretable outcomes (evaluating the Parent Education and Support for Teen Mothers, and the Nurse Family Partnership programs) examined child maltreatment rates—a clinically- and educationally- significant outcome measure with predictable consequences for later functioning.

In the other seven studies (evaluating Early Head Start, Families and Schools Together, DARE to be You, The Incredible Years, HIPPY, Reach Out and Read, and Family Check-Up), even though the outcome *constructs* studied have been linked in other research to later functioning, it is unclear whether the specific *measures* used or the *magnitude of impacts* found are clinically- or educationally-significant. For example, Miller-Heyl et al. (1998) report that the "DARE to be You" program decreased children's oppositional behavior—as measured by the General Development Index of the Minnesota Child Development Inventory (Ireton & Thwing, 1974)—from 1.02 pre-intervention to .86 one year later, while control group children's oppositional scores hovered at .90-.93 during this period. While statistical tests confirm that program children improved while control children showed no real change, Miller-Heyl and colleagues do not describe what this means in terms of the amount or intensity of the oppositional behavior "reduced," nor do they discuss whether this reductions of this magnitude are important for future development or behavior. So while oppositional behavior has been linked in other research to difficulties in school, trouble forming peer relationships, and even delinquency, it is unclear whether the DARE to be You program reduced oppositional behavior to the degree necessary to affect these longer-term outcomes.

Finally, only one of these studies followed children beyond the elementary school years (Olds et al. 1997; Olds et al. 1998). Thus, unlike the field of early childhood education—which can boast extensive literature containing longitudinal research demonstrating the long-term effects of high quality preschool education on later adolescent and adult well-being—there are precious few studies evaluating the long-term implications of parenting education (especially, group-based and therapeutic models) for children's later development and productivity as an adult.

Cost-effectiveness of Parenting Education

Researchers have begun to demonstrate the benefits and cost-effectiveness of parenting education programs. Information is available only for *home visiting* models of parenting education, given that this model (and the Nurse Family Partnership program, in particular) has been among the most widely and rigorously evaluated parenting education approach.

A cost-benefits analysis conducted by the Yale Child Welfare Research Program found that in one year, the control group of 15 families receiving no special services consumed $40,000 more in public resources than the treatment group of families who participated in programs aimed at helping disadvantaged young parents support their children's development and strengthen their families (Seitz, Rosenbaum, and Apfel, 1985). This amount would be closer to $68,000 in 2007 dollars.

More recently, in her review of home visiting parenting education programs, Gomby (2005) reported cost savings of approximately $3,000 per family (for the HIPPY program) and $26,300 per family (for the Nurse Family Partnership program) in 2003 dollars, or closer to $3,750 in

2007 dollars. Estimated benefits were even higher for higher-risk mothers: $41,400 per high-risk mother in the Nurse Family Partnership program (or $51,772 in 2007 dollars), and almost $11,000 per at-risk family (or $13,750 in 2007 dollars), on average, across numerous rigorously-evaluated home visiting programs. Benefit-cost ratios ranged from 1.8 (for the HIPPY program) to 2.9 (for the Nurse Family Partnership program, full sample), with even greater benefit-cost ratios for higher-risk families (5.7 per high-risk mother in the Nurse Family Partnership program, and 2.2 per at-risk family, on average, across numerous rigorously evaluated home visiting programs). Thus, every dollar invested in these parenting education programs returned, on average, between $1.80 and $5.70 (depending on the sample, the program, and the range of benefits considered in the estimations).

In a rare (if narrowly focused) cost-benefit analysis of *group-based* and *therapeutic* parenting education models, Greenwood and colleagues (1996) used data from California's "three strikes" program to estimate cost savings from diverting children from a life of crime. They estimated that investing in parent training and family therapy with children showing aggressive behaviors in school saved $6,500 per serious felony prevented. To date, however, there have been no comprehensive cost-benefit analyses of group-based and therapeutic parenting education approaches examining the long-term and comprehensive cost savings with regard to *parent* outcomes (e.g., costs associated with receipt of public assistance, involvement in the criminal justice system, and substance use) and/or a fuller range of child outcomes (e.g., costs associated with school failure and dropout, substance use, non-marital births, and lifelong consequences of child abuse and neglect).

Estimated Economic Benefits to Society

Clearly, the benefits of a positive parent-child relationship and the absence of child maltreatment are incredibly important to families, and go beyond the monetary gains to individuals and society. However, providing these estimates can help policy makers and legislators make informed choices about funding priorities and their expected societal benefits.

Can the ten program evaluations included in this study be used to extrapolate to societal benefits? Whereas the programs described in Section IV demonstrate the promise of parenting education programs for improving key aspects of parenting and, subsequently, the development and well-being of children, the implications of these short-term program impacts for the long-term benefits to children and society at large is not clear. The primary reason is, with one exception, most of these evaluations either did not test or did not find long-term effectiveness of these parenting interventions.[26] Consequently, one would need to rely on research that has demonstrated a link between the prevention and reduction of problem outcomes early in life and later functioning, to "extrapolate" to long-term individual and societal outcomes.

---

[26] The sole exception is the 15-year follow-up of the Nurse Family Partnership program implemented in Elmira NY. See Olds et al. (1997) and Olds et al. (1998). Findings from the Parent-Child Home Program's exploratory study examining high school graduation 16-20 years after program completion (Levenstein et al., 1998) are suggestive of long-term impacts, but the study design and small sample size in the control group precludes drawing definitive conclusions.

In addition, even with the best data, there are inherent difficulties in quantifying the benefits resulting from interventions. Quantifying typically involves monetizing, which is easier to do when outcomes pertain to conditions or statuses that can be linked to public spending (e.g., special education, child protective services, correctional facilities) and more difficult for less tangible outcomes (such as "child well-being"). Nevertheless, we use data on financial costs that can be linked to consequences of suboptimal parenting, coupled with information from three high-quality studies on the impacts of parenting education, to provide a reasonable (if not precise) estimate of the cost savings from parenting-induced improvements in child outcomes.

As noted above, only three of the ten studies included in this paper examined outcomes that allow for such an extrapolation—Parent Education and Support for Teen Mothers, Nurse Family Partnership, and Early Head Start. However, long-term impacts on abusive parenting practices were found only for Parent Education and Support for Teen Mothers and Nurse Family Partnership, which reduced child maltreatment rates between one (Britner & Reppucci, 1997) and 15 years (Olds et al. 1997; and Olds et al. 1998) after program completion. None of the studies that examined the impacts of parenting education on children's conduct problems (FAST, DARE to be You, The Incredible Years, HIPPY, and Triple P Positive Parenting) or on children's pre-literacy skills (Reach Out and Read) assessed outcomes that readily lend themselves to cost analyses and extrapolating to societal benefits. Thus, it is unknown the degree to which an investment in these kinds of parenting education programs would yield widespread cost savings from a decreased need for publicly-funded services (e.g., special education, health and mental health care, and correctional services) and from increased productivity. These programs may very well lead to long-term individual and societal economic gains, but the findings from the current state of the literature do not allow for such calculations.

The Nurse Family Partnership program—the longest running and most often evaluated home visiting program—reduced the prevalence of substantiated child maltreatment among its sample of first-time mothers by 46 percent over a 15-year period (29% vs. 54%, respectively). Additionally, the Parent Education and Support for Teen Mothers program—providing short-term, group-based parenting education classes—produced a 75 percent decline in verified child maltreatment rates three to five years after program completion. That this relatively low intensity intervention (12 weekly classes) reduced the prevalence of substantiated child maltreatment reports up to five years after program completion is impressive.

As noted above, direct costs from public expenditures on services for maltreated children and their families exceeded $23 billion in 2004 (Child Welfare League of America, 2007). Indirect costs of child maltreatment—such as costs associated with an increased need for special education, mental health, substance abuse, and welfare; and increased costs associated with domestic violence, juvenile delinquency, adult criminal behavior, and lost productivity (National Clearinghouse on Child Abuse and Neglect Information, 1998)—are harder to calculate but could be substantial. For example, based on calculations from previous research (assuming $42,000 for two years of correctional institutionalization; Daro, 1988), we estimate that the costs of juvenile delinquency and adult criminality alone for maltreated adolescents at $21.6 million in

2007 dollars.[27] Assuming that between 46 and 75 percent of these maltreatment-related costs could be prevented by the types of services offered by the two parenting programs above, we could see annual *crime-related* savings of between $9.9 million and $16.2 million annually by reducing maltreatment among adolescents, and an estimated cost savings of between $506 and $1.65 billion in *lost future productivity* among maltreated adolescents— numbers that could be even larger if maltreatment were also prevented among children. [28]

Discussion

This paper focused on the following question: If we made sufficient investments in effective parenting education programs, what might be the economic benefits to society? Unfortunately, the state of the literature on the long-term impacts and cost-effectiveness of parenting education programs—at least, group-based and therapeutic parenting education approaches—limits our ability to answer this question.

Summary

This paper presents findings from ten rigorously evaluated parenting education programs reflecting a variety of models (e.g., informational, educational, therapeutic); settings (home-based, group-based); intensity/dosage (from one-time interventions to multi-session trainings to year-long interventions); and target populations (universal, selected, indicated). Programs were selected if they served families expecting a child or parenting a child under age 5, and evaluations of these programs must have used an experimental or a strong quasi-experimental design, found impacts on child outcomes (not just parenting outcomes), and found impacts on children at a follow-up point in time (beyond program completion).

Many programs were excluded because their evaluations did not employ an experimental or a strong quasi-experimental design. These included evaluations of PAT (Albritton et al., 2004; Drazen & Haust, 1993; Drazen & Haust 1995; Drazen & Haust, 1996; O'Brien et al., 2002; Pfannenstiel & Seltzer, 1985; Pfannenstiel & Seltzer, 1989a; Pfannenstiel & Seltzer, 1989b; Pfannenstiel et al., 1991; Pfannenstiel et al., 1996; Pfannenstiel, 1999; Pfannenstiel et al. 2003; Pfannenstiel & Zigler, 2007; Zigler et al. 2008), PCHP (Allen et al., 2007; Coleman et al., 1997; the longitudinal cohort reported in Levenstein & O'Hara, 1978; Levenstein et al. 2003), Parent-

---

[27] Calculations by authors, given that 872,088 children were substantiated or indicated as abused or neglected in 2004 (Child Welfare League of America, 2007), and that an estimated 25 percent of child maltreatment victims in 2001, or 218 022, were adolescents (see Kimball, C., and Golding, J. (2004). Adolescent Maltreatment: An Overview of the Research. The Prevention Researcher, 11 (1), Downloaded from http://www.tpronline.org/issues.cfm?articleID=280 on August 24, 2007). $14.9 million per year/177,000 maltreated youth in 1983=$84 per youth. $84/youth x 218,022 maltreated youth in 2004 = $18.35 million per year in 2004 dollars, or $21.6 million in 2007 dollars.

[28] Calculations by authors. These estimates reflect a 46 to 75 percent reduction in Daro's (1988) estimated costs of $658 million and $1.3 billion in 1987 dollars (or $1.1 and $2.2 billion in 2007 dollars) in lost future productivity from the maltreatment of adolescents, using her assumption that abuse-related impairments reduce future earnings by between 5 and 10 percent. Range calculated as .46 x $1.1 billion (=$506 M) and .75 x 2.2 billion (=$1.65 M).

Child Interaction Therapy (Chaffin et al., 2004), and Every Child Succeeds (Donovan et al., 2007).

Other programs were excluded because their evaluations either did not examine or did not show impacts beyond program completion. Studies that did not examine follow-up impacts include evaluations of Parents as Teachers (Drotar & Hurwitz, 2005; Drotar et al. 2005; Pfannenstiel & Seltzer, 1985; Pfannenstiel & Seltzer, 1989a; Pfannenstiel et al., 1991; Wagner et al., 1996; Wagner & Clayton, 1999a; Wagner et al., 1999b; Wagner et al. 2001; Wagner & Spiker, 2001; Wagner et al., 2002), the Parent-Child Home Program (1976 cohort in Levenstein & O'Hara, 1978), and an evaluation of My Baby U (Brown et al., 2000). In other cases, evaluations included a follow-up period, but impacts were not found (Madden et al., 1984; O'Brien et al., 2002; Webster-Stratton, 1998). Finally, Healthy Families America/New York State will conduct a follow-up when children are seven years old—two years after program completion—but findings will not be available or a few years.

Given the purpose of this paper, we further required the programs to comprise parenting education as the sole component or, if part of a multi-component program, the evaluation would need to be designed in such as way as to isolate the unique effect of the parenting education piece. It is this latter criterion that resulted in well-known programs such as Perry Preschool Program, Abecedarian Program, Chicago Parent-Child Centers, the Infant Health and Development Program, and Syracuse's Family Development Research Program being excluded from this paper. It is precisely because the impacts of these early childhood programs have been well-established that PAES commissioned this paper to look at what is known about the effectiveness and cost-effectiveness of parenting education programs.

In general, the ten studies included in this paper showed that parenting attitudes, knowledge, skills, and disciplinary practices can be affected by parenting education programs, with some evidence suggesting that impacts can be sustained for at least one year after program completion. Likewise, children's health, safety, behavioral, and academic outcomes can be affected by these programs, though little research exists as to whether children's long-term functioning or developmental trajectories are appreciably altered as a result of their mothers' participation parenting education programs. Because precious few studies examined longer-term impacts for parents or children, it is not clear whether immediate impacts on parents or children are sustained much beyond program completion—let alone into adolescence and young adulthood. In addition, virtually no published studies provide cost information that would allow an estimation of cost-effectiveness—in the short-run or the long-run. These are the two biggest gaps in the literature on the effectiveness of parenting programs.

Lacking this information, it was not possible to estimate the net benefits to society (benefits minus costs) or the benefit-cost ratio for seven of the ten programs in our study. Only the Nurse Family Partnership (NFP) and the HIPPY programs—among the longest running, most widely replicated, and most-often evaluated parenting education programs in the U.S.—have published benefit/cost data available. Calculating cost savings from the family's use of child welfare services, children's emergency room visits, the mother's lifetime earnings and welfare receipt, and both the child's and mother's involvement in the criminal justice system, NFP research shows net benefits of $17,180 per child (total societal benefits of $26,298 per child, minus $9,118 in program costs per child), suggesting that each dollar invested yields savings of $2.88

(Karoly et al., 2005). NFP was even more cost-effective for at-risk first-time mothers, yielding net benefits of $34,148 per child and a benefit-cost ratio of 5.7. Nevertheless, NFP is still cost-effective for low-risk first time mothers, yielding net benefits of $1,880 per child and a benefit-cost ratio of 1.26. HIPPY research shows net benefits of $1,351 per child (total societal benefits, measured as projected lifetime earnings gains from higher test scores, of $3,032 per child, minus $1,681 in program costs per child), suggesting that each dollar invested yields savings of $1.80 in lifetime earnings (Karoly et al., 2005). A meta-analysis of the costs and benefits of home visiting parenting education programs for at-risk mothers and children found average net benefits of $6,077 per child (total societal benefits averaging $10,969 per child, minus an average $4,892 in program costs per child), suggesting that each dollar invested in home visiting programs for high-risk families yields $2.24 in savings from reducing unfavorable education, crime, substance abuse, child abuse and neglect, teen pregnancy, and public assistance outcomes (Aos, Lieb, Mayfield, Miller, & Pennucci, 2004). (It should be noted that these benefit-cost estimates cannot be directly compared, because the underlying assumptions and methods for estimating societal benefits differed across these three studies.)

Given the magnitude of impacts on reductions in child maltreatment by NFP and the Parent Education and Support for Teen Mothers program, we conservatively estimate societal benefits from the prevention of juvenile and adult crime alone of between $8.4 million and $13.7 million annually, and cost savings of between $303 and $975 million by preventing lost future productivity among maltreated adolescents.

In general, the lack of program cost data and the paucity of research linking program-targeted outcomes (especially conduct disorders and school readiness) to monetizable longer-term outcomes for society hampered our ability to estimate the overall economic benefits to society of an improvement in a broader range of child outcomes.

Despite limited empirical evidence that parenting education programs have long-term impacts of importance to child well-being, there is a strong theoretical base on which parenting education program are designed, and empirical evidence linking the targets of intervention—parenting attitudes, skills, knowledge, and behavior/practices—to child outcomes. These theories and research suggest that more widespread replication and implementation of empirically-validated parenting education programs *could* yield long-term benefits to society—it is just not clear whether and which investments would be the most cost-effective.

Replication and "Going to Scale"

Our review has uncovered several issues relating to the feasibility of "going to scale" with a parenting education program shown to be effective in on a smaller scale.

- **Program Fidelity**. As is the case when replicating any evidenced-based program, care must be taken to ensure that the program is implemented with fidelity. If the program content, duration, dosage, setting, or staffing (to name a few) diverges appreciably from the program model shown to be effective, then the hoped-for outcomes may not be realized when replicated elsewhere.

- **Completion Rates**. Like many voluntary community education programs, parenting education programs tend to suffer from significant dropout and erratic attendance rates. To the extent that parents need to participate in a critical mass of hours or sessions, the effects of parenting education will be tempered by program dosage.

- **Program Setting**. Some parenting education programs reviewed were delivered through a child care or preschool setting. In order to reach those parents who do not enroll their children in center-based activities during the day, it would be important to modify those models to attract and serve parents not connected to formal child care settings.

- **"Positive Selection"**. Many of the parents involved in the programs being evaluated represent "early adopters"—people that are more apt to participate in a new program and interested in bettering their families' lives. Taken to scale, parenting education programs may have difficulties attracting and retaining parents who are less likely to seek out, enroll, and attend parenting education classes.

- **Fathers?** The vast majority of parents who participated in the programs evaluated above were mothers. It remains to be seen whether fathers—if targeted for parenting education—would attend, participate, and demonstrate similar gains.

- **Target population.** A program shown to be effective for a particular target population may or may not be as (or at all) effective for another population. For example, many of the programs presented in this study were provided to parents (typically mothers) at risk of child abuse or neglect. The impacts observed for this "high risk" group may not reflect what could be expected if the program were offered to a broader audience. In fact, inasmuch as impacts are stronger for higher-risk populations, the favorable impacts found in these studies—and the corresponding economic benefits estimated—are likely an upper bound for the impacts that could be expected if they were to be implemented more widely to moderate- and lower-risk populations. And while some studies' samples comprised about one-third Latino families (Baker et al., 1998; Gross et al., 2003; Miller-Heyl et al., 1998), the limited sample size precluded examining impacts separately for these families—especially those for whom English is not their primary language.

- **Cost.** Even for programs showing sizeable benefit-cost ratios, the cost—on an absolute level—of going to scale would be significant. Launching and sustaining parenting education programs in a community would therefore require not only adequate financial resources, but also a long-term vision, political will, and the commitment of both community leaders and taxpayers.

Clearly, many of the programs included in this paper—and many of those not included—have been replicated in many sites over many years, and we are learning a lot about the process of and infrastructure required for replication and going to scale with programs that have demonstrated efficacy in smaller, high quality, well-controlled randomized control trials. It is beyond the scope of this paper to describe efforts that have been made to replicate parenting education programs or to assess the likelihood of successful replication of these programs. However, it is critical to point out that any program evaluation should also include a study of implementation to better understand not only what exactly was implemented (to better interpret impacts), but also to

better understand the process of implementation and what factors helped or hindered the implementation or expansion of a given program. Information on the fidelity of implementation, how programs are adapted to meet local needs without compromising fidelity, and the infrastructure needed to "go to scale" is critical if evidence-based parenting education programs are to be implemented more widely throughout the US.

Parenting Education: Stand Alone Program, or Part of a Comprehensive Approach?

Given our goal of estimating the unique effect—and, thus, the cost-effectiveness—of parenting education per se, we excluded from our review numerous programs that *include* a parenting education component (for example, alongside child-focused components, such as high quality early childhood education) but for which no evaluation existed that measured the *unique contribution* of this component to the overall effectiveness of the program. And while this hindered our ability to answer the paper's overarching research question, it should be noted that research suggests that comprehensive approaches to meeting a child's early developmental needs are likely to be more effective than stand-alone programs or approaches that address only one of their many contexts or developmental influences.[29] For example, findings from Early Head Start show the strongest impacts at age 3 among families in the mixed (home- and center-based) model, and the strongest impacts at age 4 among families who had received home-based EHS through age 3 and who were more likely at age 4 to be in formal child care (Martin et al., 2007). In their review of cost-effective early childhood approaches for preventing delinquency, Kumpfer (1999) concludes that approaches should be comprehensive; family-focused (versus parent- or child-only focused); start early; long-term and enduring; of sufficient dosage and intensity culturally sensitive; developmentally appropriate; and seek to change on-going family dynamics, family relations, communication, and parenting (Kumpfer, 1999, pp. 34-38).

Future Research

The strongest evaluations findings come from the strongest evaluation designs. Parenting education programs and their funders should insist on the use of experimental or strong quasi-experimental designs—and corresponding "intent-to-treat" impact analyses–- if they want to obtain the strongest evidence of program impacts. Quasi-experimental researchers need to understand how the program and comparison groups may differ at the outset and take care to assess the baseline characteristics that are also likely to affect outcomes of interest—most critically, baseline measures of the parenting and child outcomes targeted by the program—and control for these covariates in all impact analyses. Ideally, the measures used to assess parenting and child outcomes would have evidence of their clinical or educational significance to the child's future functioning. This is especially crucial for studies that do not have the resources to follow parents and children long-term, although even a three- or six-month follow-up would show whether impacts could persist beyond immediate exposure to the program.

Parenting education program evaluations also need to assess what other parenting and child interventions, if any, are being received by the program and the control/comparison group to

[29] See discussions in Kagan, Powell, Weissbourd, & Zigler, 1987; Schor, 1988; and Shonkoff & Philips, 2000.

better identify the impacts of the program being tested. This is typically examined with a solid implementation study, which should also assess whether the program was implemented with fidelity and what actual participation rates and patterns of participation actually were.

In order to better assess the potential for parenting education programs to play a key role in improving long-term outcomes for children—perhaps especially for those at risk for problem outcomes—future research is needed not only on the benefits of stand alone parenting education programs but also on the *relative* benefit, or "valued added," of parenting education when combined with other parent- and child-focused program components. Outcomes examined must be readily interpretable, clinically- or educationally-significant (predicting predict future outcomes of importance, such as grade repetition, high school graduation, referrals to mental health services, behavior disorder diagnoses, juvenile and adult crime, future earnings), and quantifiable. Findings from such research would provide the greatest evidence regarding which program approaches work best for whom, which are the most cost-effective, and which, therefore, warrant consideration for more widespread replication.

Nevertheless, investing in parenting education has the potential to improve outcomes for individuals and society—not only for the immediate generation of children *and* their parents but also for generations of children and parents to come.

Appendix: Programs/Studies Reviewed that Did Not Meet Inclusion Criteria

Program (Study)	Program Criteria			Study Criteria			
	Age of child	Focus on Parenting Education?	Target Population at Risk for Problem Outcomes?	Evaluation Design is Experimental or Strong Quasi-experimental?	Can Estimate Unique Effect of Parenting Education Component?	Impacts Beyond Program Participation?	Measured and Found Impacts on Child Outcomes?
Family Development Research Program (Lally et al., 1988)	√	Yes, but also provided high quality long term early childhood education	√	√	No. Effects not separated from effects of parenting education.	√	√
Houston Parent-Child Development Center (PCDC) (Johnson 2006)	√	Yes, but also provided high quality long term early childhood education	√	√	No. Effects not separated from effects of parenting education.	√	√
Infant Health Development Program (Brooks-Gunn et al., 1994)	√	Yes, but also provided high quality long term early childhood education	√	√	No. Effects not separated from effects of parenting education.	√	√
High Scope/ Perry Preschool Program (Schweinhart et al., 2005)	√	Yes, but also provided high quality long term early childhood education	√	√	No. Effects not separated from effects of parenting education.	√	√
Carolina Abecedarian Project (Campbell et al., 2002)	√	Yes, but also provided high quality long term early childhood education	√	√	No. Effects not separated from effects of parenting education.	√	√

Program (Study)	Program Criteria			Study Criteria			
	Age of child	Focus on Parenting Education?	Target Population at Risk for Problem Outcomes?	Evaluation Design is Experimental or Strong Quasi-experimental?	Can Estimate Unique Effect of Parenting Education Component?	Impacts Beyond Program Participation?	Measured and Found Impacts on Child Outcomes?
Chicago Parent-Child Centers (Reynolds et al., 2001)	√	Yes, but also provided high quality long term early childhood education	√	√	No. Effects not separated from effects of parenting education.	√	√
Missouri New Parents as Teachers (NPAT) (Pfannenstiel & Seltzer, 1985; Pfannenstiel & Seltzer, 1989a)	√	√	No. All Missouri families are offered NPAT, and the 4 school districts selected for this study represented the MO population as a whole.	Weak quasi-experimental design; retrospectively compared random samples of NPAT and non-NPAT families, which introduces selection effects. Controlled only for socioeconomic disadvantage but not pre-program levels on targeted program outcomes.	√	No. Outcomes assessed at program completion (at age 3), but no longer-term follow-up.	√ √
Missouri NPAT (Pfannenstiel & Seltzer, 1989b)	√	√	No. All Missouri families are offered NPAT, and the 4 school districts selected for this study represented the MO population as a whole.	Weak quasi-experimental design; retrospectively compared random samples of NPAT and non-NPAT families, which introduces selection effects. Controlled only for socioeconomic disadvantage but not pre-program levels on targeted program outcomes.	√	√	
Missouri PAT—Second Wave	√	√	√ While all MO	An outcomes-only study; no experimental or quasi-	√	No. Outcomes assessed at	√

Program (Study)	Program Criteria			Study Criteria			
	Age of child	Focus on Parenting Education?	Target Population at Risk for Problem Outcomes?	Evaluation Design is Experimental or Strong Quasi-experimental?	Can Estimate Unique Effect of Parenting Education Component?	Impacts Beyond Program Participation?	Measured and Found Impacts on Child Outcomes?
(Pfannenstiel et al., 1991)			families are offered PAT, the 37 school districts selected for this study were disproportionate-ly higher risk.	experimental design. Benchmarked stratified random samples of PAT children to national norms on child assessments.		program completion (at age 3), but no longer-term follow-up.	
Missouri PAT Second Wave Follow-up (Pfannenstiel et al., 1996)	√	√	√ While all MO families are offered PAT, the 37 school districts selected for this study were disproportionate-ly higher risk.	An outcomes-only study; no experimental or quasi-experimental design. Benchmarked stratified random samples of PAT children to national norms on child assessments.	√	√	
Missouri PAT (Pfannenstiel, 1999 ; Pfannenstiel et al. 2003 ; Pfannenstiel & Zigler, 2007)	√	√	√ While all MO families are offered PAT, the study examined outcomes separately for poverty and non-poverty children.	Weak quasi-experimental design; retrospectively compared random samples of kindergarten families who had and had not previously enrolled in PAT, which introduces selection effects. Selection effects not identified nor controlled, which means can't rule out possibility that PAT mothers and children were better off to begin with, which could account for	√	√	√

Program (Study)	Program Criteria			Study Criteria			
	Age of child	Focus on Parenting Education?	Target Population at Risk for Problem Outcomes?	Evaluation Design is Experimental or Strong Quasi-experimental?	Can Estimate Unique Effect of Parenting Education Component?	Impacts Beyond Program Participation?	Measured and Found Impacts on Child Outcomes?
				more positive outcomes in this group.			
Missouri Parents as Teachers (PAT) (Zigler et al. 2008)	√	√	√ While all MO families are offered PAT, the study examined outcomes separately for poverty and non-poverty children.	Weak quasi-experimental design; retrospectively compared random samples of kindergarten families who had and had not previously enrolled in PAT, which introduces selection effects. Selection effects not identified nor controlled, which means can't rule out possibility that PAT mothers and children were better off to begin with, which could account for more positive outcomes in this group.	√	√	√
Parents as Teachers (Wagner & Clayton, 1999a; Wagner et al., 1999b; Wagner et al., 1996; Wagner et al., 2002; Wagner et al. 2001; Wagner & Spiker, 2001)	√	√	√	√	√	No. Outcomes assessed prior to program completion (before age 3) in two sites, and at program completion (at age 3) in one site, but no longer-term follow-up.	√

Program (Study)	Program Criteria			Study Criteria			
	Age of child	Focus on Parenting Education?	Target Population at Risk for Problem Outcomes?	Evaluation Design is Experimental or Strong Quasi-experimental?	Can Estimate Unique Effect of Parenting Education Component?	Impacts Beyond Program Participation?	Measured and Found Impacts on Child Outcomes?
Parents and Children Together /PAT (Drazen & Haust, 1993; Drazen & Haust 1995; Drazen & Haust, 1996)	√	√	√	Weak quasi-experimental design; retrospectively compared PACT participants to non-participants, which introduces selection effects. Selection effects not identified nor controlled, which means can't rule out possibility that PACT mothers and children were better off to begin with, which could account for more positive outcomes in this group	√	√	√
Cleveland Born to Learn/PAT (Drotar & Hurwitz, 2005; Drotar et al. 2005)	√	√	√	√	√	No. Did not conduct a follow-up.	√
Rutherford County PAT (Coleman et al., 1997)	√	√	√	Unclear. Three groups, matched on demographic characteristics (so not randomly assigned): PAT program, PAT newsletter, no PAT. May have been a retrospective comparison when children in kindergarten, or may have followed children prospectively into kindergarten. In any event,	√	√	√

Program (Study)	Program Criteria			Study Criteria			
	Age of child	Focus on Parenting Education?	Target Population at Risk for Problem Outcomes?	Evaluation Design is Experimental or Strong Quasi-experimental?	Can Estimate Unique Effect of Parenting Education Component?	Impacts Beyond Program Participation?	Measured and Found Impacts on Child Outcomes?
				key selection effects likely remain (e.g., child social skills prior to PAT), which means can't rule out possibility that PAT mothers and children were better off to begin with, which could account for more positive outcomes in this group.			
Canon City, CO PAT (O'Brien et al., 2002)	√	√	√	Unclear.	√	No. Third grade impacts not statistically significant.	√
Mississippi PAT (Albritton et al., 2004)	√	√	√	Weak quasi-experimental design retrospectively compared PAT participants to non-participants, which introduces selection effects. Selection effects not identified nor controlled, which means can't rule out possibility that PAT mothers and children were better off to begin with, which could account for more positive outcomes in this group.	√	√	√
Mother-Child Home Program (MCHP)	√	√	√	1976 cohort: √ Longitudinal cohorts: Quasi-experimental design with pre-	√	1976: No. Outcomes assessed at program	√

Program (Study)	Program Criteria			Study Criteria			
	Age of child	Focus on Parenting Education?	Target Population at Risk for Problem Outcomes?	Evaluation Design is Experimental or Strong Quasi-experimental?	Can Estimate Unique Effect of Parenting Education Component?	Impacts Beyond Program Participation?	Measured and Found Impacts on Child Outcomes?
(Levenstein & O'Hara, 1978)				existing group differences appearing to favor the program group (no statistics reported).		completion (two years after entry), but no longer-term follow-up. Longitudinal: √	
Mother-Child Home Program (MCHP) (Madden et al., 1984)	√	√	√	Yes, but did not conduct "intent to treat" analyses; that is, analyses examined outcomes only among the (less than half) families offered the program. This introduced positive selection effects: The cohort with the lowest acceptance rate had children with the highest pre-program IQs. It is unclear whether this affected findings.	√	No. For two of the four cohorts, impacts occurred only during the two program years; no statistically significant impacts at first grade follow up (i.e., at 5 years post program entry, or 3 years post-program completion).	√
Parent-Child Home Program (PCHP; formerly the Mother-Child Home Program)	√	√	√	√	√	No. Differences in graduation and dropout rates disappeared once baseline IQ was controlled.	√

Program (Study)	Program Criteria			Study Criteria			
	Age of child	Focus on Parenting Education?	Target Population at Risk for Problem Outcomes?	Evaluation Design is Experimental or Strong Quasi-experimental?	Can Estimate Unique Effect of Parenting Education Component?	Impacts Beyond Program Participation?	Measured and Found Impacts on Child Outcomes?
(Levenstein et al. 1998)							
PCHP (Levenstein et al. 2003)	√	√	√	An outcomes-only study; no experimental or quasi-experimental design. Benchmarked cognitive scores for four cohorts of first graders whose parents previously participated in PCHP to state scores on the cognitive assessment.	√	√	√
PCHP (Allen et al., 2007).	√	√	√	Weak quasi-experimental design retrospectively compared PCHP participants to non-participants, which introduces selection effects. Some selection effects identified, favoring the control group. However, unclear whether these selection effects were controlled in subsequent analyses, many of which showed better outcomes for control than PHCP kindergartners.	√	√	√
Project CARE (Wasik et al., 1990).	√	√	√	√	√	√	Yes, but no statistically significant impacts of parenting education

Program (Study)	Program Criteria			Study Criteria			
	Age of child	Focus on Parenting Education?	Target Population at Risk for Problem Outcomes?	Evaluation Design is Experimental or Strong Quasi-experimental?	Can Estimate Unique Effect of Parenting Education Component?	Impacts Beyond Program Participation?	Measured and Found Impacts on Child Outcomes?
							component
Healthy Steps (Minkovitz et al., 2003)	√	√	√	√	√	√	Yes, but no statistically significant impacts in any of 6 sites
My Baby U (Brown et al., 2000)	√	√	√	√	√	No. Outcomes assessed pre-, mid-, and post-completion, but no longer-term follow-up.	√
Healthy Families New York (DuMont et al., 2006, DuMont et al., 2008)	√	√	√	√	√	No. To date, outcomes assessed at 1, 2, and 3 years post-entry into this 5-year program, but no post-completion or longer-term follow-up.	√
Parent-Child Interaction Therapy (Chaffin et al., 2004)	√	√	√	Random assignment, but not a no-treatment control group; control group received community-based parenting education.	√	√	√

Program (Study)	Program Criteria			Study Criteria			
	Age of child	Focus on Parenting Education?	Target Population at Risk for Problem Outcomes?	Evaluation Design is Experimental or Strong Quasi-experimental?	Can Estimate Unique Effect of Parenting Education Component?	Impacts Beyond Program Participation?	Measured and Found Impacts on Child Outcomes?
Every Child Succeeds (Donovan et al., 2007)	√	√	√	Retrospective quasi-experimental design compared ECS participants to non-participants, which introduces selection effects. Selection effects not identified nor controlled, which means can't rule out possibility that ECS mothers and children were better off to begin with, which could account for more positive outcomes in this group. Study sample includes only those with 1+ home visit; dropped anyone offered ECS but declined (which introduces selection effects)	√	√	√
PARTNERS Incredible Years (Webster-Stratton, 1998)	√	√	√	√	√	No. Examined but did not find statistically significant impacts at follow-up.	√
Parenting Adolescents Wisely (Lagges & Gordon 1999)	√	√	√	√	√	√	No child outcomes measured.

References

Aos, S., Lieb, R., Mayfield, J., Miller, M., and Pennucci, A (2004). Benefits and costs of prevention and early intervention programs for youth. Olympia: Washington State Institute for Public Policy. On-line at: http://www.wsipp.wa.gov/rtpfiles/04-07-3901.pdf.

Albritton, S., Klotz, J., and Roberson, T. (2004). The effects of participating in a Parents as Teachers program on parental involvement in the learning process at school and in the home. E-journal of Teaching and Learning in Diverse Settings.

Alexander, K. L., Entwisle, D. R., & Kabbani, N. (2001). The dropout process in life course perspective: Early risk factors at home and school. Teachers College Record, 103, 760-822.

Allen, L., Sethi, A., and Astuto, J. (2007). An evaluation of graduates from a toddlerhood home visiting program at kindergarten age. NHSA Dialog, 10 (1), 36-57.

Altman, D.G. (1995).Absence of evidence is not evidence of absence. BMJ, 311-485.

Baker, A.J.L., Piotrkowski, C.S., & Brooks-Gunn, J. (1998). The effects of the Home Instruction Program for Preschool Youngsters (HIPPY) on children's school performance at the end of the program and one year later. Early Childhood Research Quarterly, 13, 571-588.

Bartik, T.J., & Erickcek, G. (2003). Economic impact of various budgetary policy options for the State of Michigan to resolve its budget deficit for FY 2004. Kalamazoo, MI: W.E. Upjohn Institute for Employment Research.

Bartik, T.J. (2008). The economic development effects of early childhood education programs. Kalamazoo, MI: W.E. Upjohn Institute for Employment Research. Report prepared for the Partnership for America's Economic Success.

Baumrind D. (1967). Child care practices anteceding three patterns of preschool behavior. Genetic Psychology Monographs, 75, 43-88.

Bavolek, S.J. (1984). Handbook for the Adult-Adolescent Parenting Inventory (AAPI). Eau Claire, WI: Family Development Resources, Inc.

Britner, P.A. & Reppucci, N.D. (1997). Prevention of child maltreatment: Evaluation of a parent education program for teen mothers. Journal of Child and Family Studies, 6(2), 165-175.

Bronfenbrenner, U. (1974). Is early intervention effective? A report on longitudinal evaluations of preschool programs. Washington, DC: Department of Health, Education, and Welfare.

Brooks-Gunn, J., McCarton, C.M., Casey, P.H., McCormick, M.C., Bauer, C.R., Bernbaum, J.C., Tyson, J., Swanson, M., Bennett, F.C., Scott, D.T., Tonascia, J. & Meinert, C.L. (1994). Early intervention in low-birth-weight premature infants: Results through age 5 from the Infant Health and Development Program. Journal of the American Medical Association, 272 (16), 1257-1262.

Brown, M., Yando, R. & Rainforth, M. (2000). Effects of an at-home video course on maternal learning, infant care and infant health. Early Child Development and Care, 160, 47-65.

Bruner, C. (2004, Dec). Many happy returns: Three economic models that make the case for school readiness. State Early Childhood Policy, Resource Brief; Heckman J., J. (2000). Policies to foster human capital. Research in Economics, 54, 3-56.

Campbell, F.A., Ramey, C.T., Pungello, E., Sparling, J., & Miller-Johnson, S. (2002). Early childhood education: Young adult outcomes from the Abecedarian Project. Applied Developmental Science, 6 (1), 42-57.

Carter, N., and Kahn, L. (1996). See how we grow: A report on the status of parenting education in the U.S. Philadelphia, PA: Pew Charitable Trusts.

Caspi, A., Elder, G.H., and Bem, D.J. (1987). Moving against the world: Life course patterns of explosive children. Developmental Psychology, 23, 308-313.

Chaffin, M., Silovsky J. F., Funderburk, B., Valle, L. A., Brestan, E. V., Balachova, T., Jackson, S., Lensgraf, J., & Bonner, B.L. (2004). Parent-child interaction therapy with physically abusive parents: Efficacy for reducing future abuse reports. Journal of Consulting and Clinical Psychology, 72(3), 500–510.

Child Welfare League of America. (2007). National Fact Sheet 2007. Washington DC: Author.

Cohen, M.A. (1998). The monetary value of saving a high-risk youth. Journal of Quantitative Criminology 14(1), 5–33.

Coleman, J. (1966). Equality of Educational Opportunity. Washington DC: U.S. Department of Education.

Coleman, M., Rowland, B., & Hutchins, B. (1997, Nov). Parents as Teachers: Policy implications for early school intervention. Paper presented at the annual meetings of the National Council on Family Relations, Crystal City, VA.

Dangel, R.E., and Polster, R.A. (Eds.) (1984). Parent training. New York: Guilford Press.

Daro, D. (1988). Confronting child abuse: Research on effective program design. New York: The Free Press, Macmillan Inc.

Dokecki, P. R., Hargrove, E. C., and Sandler, H. M. (1983). An overview of the Parent Child Development Center social experiment. In R. Haskins & D. Adams (Eds.), Parent education and public policy (pp. 80-111). New York: Ablex Publishers.

Donovan, E., Ammerman, R., Besl, J., Atherton, H., Khoury, J., Altaye, M., Putnam, F., Van Ginkel, J. (2007). Intensive home visiting is associated with decreased risk of infant death. Pediatrics, 119, 1145-1151.

Doyle, J.J. Jr. (forthcoming). Child protection and child outcomes: Measuring the effects of foster care. Forthcoming in the American Economic Review. Downloaded from http://www.mit.edu/~jjdoyle/doyle_fosterlt_march07_aer.pdf on August 27, 2007.

Drazen, S., & Haust, M. (1993, Aug). Raising reading readiness in low-income children by parent education. Paper presented at the annual meeting of the American Psychological Association.

Drazen, S., & Haust, M. (1995). The effect of the Parents and Children Together (PACT) program on school achievement. Binghamton, NY: Unpublished report.

Drazen, S., & Haust, M. (1996, Aug). Lasting academic gains from an early home visitation program. Paper presented at the annual meeting of the American Psychological Association.

Drotar, D. &, Hurwitz, H.M., (2005). The Cleveland Eastern Suburban Born to Learn Program: Final Report. Cleveland: Case Western University School of Medicine.

Drotar, D. & Hurwitz, HM, Jeavons, L, Kirchner, L, Schlucter M, Sullivan, S., and Robinson, J. (2005). Effects of the Born to Learn Curriculum on Young Children's Development. Cleveland: Case Western University School of Medicine.

Dugger, R. Investing in America's Future. Partnership for America's Economic Success/Invest in Kids Working Group. Presentation on January 29, 2007.

DuMont, K., Mitchell-Herzfeld, S., Greene, R., Lee, E, Lowenfels, A., and Rodriguez, M. (2006). Healthy Families New York (HFNY) Randomized Trial: Impacts on parenting after the first two years. Albany, NY: NYS Office of Children and Family Services.

DuMont, K., Mitchell-Herzfeld, S., Greene, R., Lee, E., Lowenfels, A., Rodriguez, M., and Dorabawil, V. (2008). Healthy Families New York (HFNY) randomized trial: Effects on early child abuse and neglect. Child Abuse & Neglect, 32, 295–315.

DuMont, K., Rodriguez, M., Mitchell-Herzfeld, S., Walden, N., Kirkland, K., Greene, R., Lee, E. (2008). Effects of Healthy Families New York on maternal behaviors: Observational assessments of positive and negative parenting. Rensselaer, New York: New York State Office of Children and Family Services.

ETS (1995). Dreams deferred: High school dropouts in the United States. Princeton, NJ: Education Testing Service.

Gomby, D. S. (2005). Home visitation in 2005: Outcomes for children and parents. Invest in Kids Working Paper No. 7. Committee for Economic Development/Invest in Kids Working Group.

Greenwood, P.W., Model, K., Rydell, C.P., and Chisea, J. (1996). Diverting children from a life of crime: Measuring costs and benefits. Santa Monica CA: RAND Corporation.

Kumpfer, K.L. (1999). Strengthening America's families: Exemplary parenting and family strategies for delinquency prevention. U.S. Department of Justice/Office of Juvenile Justice and Delinquency Prevention.

Gross, D., Fogg, L., Webster-Stratton, C., Garvey, C., Julian, W., & Grady, J. (2003). Parent training of toddlers in day care in low-income urban communities. Journal of Consulting and Clinical Psychology, 71(2), 261–278.

Hepburn, K.S. (2004). Families as Primary Partners in their Child's Development and School Readiness. Baltimore, MD: The Anne E. Casey Foundation.

High, P., LaGasse, L., Becker, S., Ahlgren, I., & Gardner, A. (2000). Literacy promotion in primary care pediatrics: Can we make a difference? Pediatrics, 105, 927-935.

http://www.acf.hhs.gov/programs/opre/ehs/ehs_resrch/ehs_aboutus.html

http://www.activeparenting.com/

http://www.ciccparenting.org/

http://www.healthyfamiliesamerica.org/about_us/index.shtml

http://www.healthyfamiliesamerica.org/home/index.shtml

http://www.incredibleyears.com

http://www.lifematters.com/step.asp

http://www.nurturingparenting.com/

http://www.pat.org

http://www.parentsasteachers.org

http://www.parentsasteachers.org/site/pp.asp?c=ekIRLcMZJxE&b=272092

http://www.parent-child.org/aboutus/ourhistory.html

http://www.parent-child.org/localsites/index.html

http://thinkexist.com/quotation/absence_of_evidence_is_not_evidence_of_absence/154055.html

http://www.wcer.wisc.edu/fast

Ireton, H. and Thwing, E. (1974). Minnesota Child Development Inventory. Minneapolis, University of Minnesota.

Johnson, D. (2006). Parent-Child Development Center Follow-up Project: Child behavior problem results. Journal of Primary Prevention, 27(4), 391-407.

Karoly, L.A., Kilburn, M.R., and Cannon, J.S. (2005). Early childhood interventions: Proven results, future promise. Santa Monica, CA: RAND Corporation.

Kazdin, A.E. (1995). Conduct disorders in childhood and adolescence: Developmental clinical psychology and psychiatry (Vol. 9, 2nd Ed.). Thousand Oaks, CA: Sage.

Kimball, C., and Golding, J. (2004). Adolescent Maltreatment: An Overview of the Research. The Prevention Researcher, 11 (1), Downloaded from http://www.tpronline.org/issues.cfm?articleID=280 on August 24, 2007).

Knapp, M. Scott, M. and Davies, J. (1999). The cost of antisocial behavior in younger children. Clinical Child Psychology and Psychiatry, 4, 1359-1045.

Kratochwill, T.R., McDonald, L., Levin, J.R., Bear-Tibbetts, H.Y., & Demaray, M.K. (2004). Families and Schools Together: An experimental analysis of a parent-mediated multi-family group program for American Indian children. Journal of School Psychology, 42, 359-383.

Kumpfer, K.L. (1999). Strengthening America's families: Exemplary parenting and family strategies for delinquency prevention. U.S. Department of Justice/Office of Juvenile Justice and Delinquency Prevention.

Lagges, A.M. & Gordon, D.A. (1999). Use of an interactive laserdisc parent training program with teenage parents. Child and Family Behavior Therapy 21(1), 19-37.

Lally, J.R. and Honig, A.S. (1977). The Family Development Research Program: A program for prenatal infant and early childhood enrichment. In M.C. May and R.D. Parker (Eds.), The preschool in action: Exploring early childhood programs (147-194). Boston: Allyn and Bacon.

Lally, J.R., Mangione, P.L., & Honig, A. (1988). The Syracuse University Family Development Research Program: Long-range impact of an early intervention with low-income children and their families. In D.R. Powell (Ed.), Parent Education in early Childhood Education: Emerging Directions in Theory, Research and Practice. Greenwood Publishing Group.

Layzer, J. I., Goodson, B. D., Bernstein, L., & Price, C. (2001). National evaluation of family support programs: Final report: Volume A: The meta-analysis. Cambridge, MA: Abt Associates Inc.

Levenstein, P., Levenstein, S., Shiminski, J.A., & Stolzberg, J.E., (1998). Long-term impact of a verbal interaction program for at-risk toddlers: An exploratory study of high school outcomes in a replication of the Mother-Child Home Program. Journal of Applied Developmental Psychology, 19(2), 267-285.

Levenstein, P. & O'Hara, J. (1978). Mother-Child Home Program of the Verbal Interaction Project; Research Findings 1967-1978. Submission for review by the Joint Dissemination Review Panel of the National Institute of Education and the U.S. Department of Education.

Levenstein, P., O'Hara, J.M., and Madden, J. (1983). The mother-child home program of the verbal interaction project. In Consortium for Longitudinal Studies (Ed.), As the twig is bent (pp.237-263). Hillsdale, NJ: Erlbaum.

Levenstein,P., Levenstein, S., & Oliver, D. (2003). First grade school readiness of former child participants in a South Carolina replication of the Parent-Child Home Program. Journal of Applied Developmental Psychology, 23 (3), 331-353.

Love, J.M., Nauta, M.J., Coelen, C.G., Hewett, K. and Ruopp, R.R. (1976). National Home Start Evaluation: Final Report. Findings and Implications. Ypsilanti, MI: High/Scope Educational Research Foundation.

Love, J., Kisker, E.E., Ross, C.M., Schochet, P.Z., Brooks-Gunn, J., Paulsell, D., Boller, K., Constantine, J., and Vogel, C. (2002). Making a Difference in the Lives of Infants and Toddlers and Their Families: The Impacts of Early Head Start: Executive Summary. Princeton, NJ: Mathematica Policy Research, Inc.

Maccoby E.E., and Martin, J.A. (1983). Socialization in the context of the family: Parent-child interaction. In P.H. Mussen (Series Ed.) and E. Mavis Hetherington (Vol. Ed.), Handbook of child psychology: Vol. 4 Socialization, personality, and social development (pp. 1-101). New York: Wiley.

Madden, J., O'Hara, J., & Levenstein, P. (1984). Home again: Effects of the Mother-Child Home Program on mother and child. Child Development, 55, 636-647.

Martin, A., Chazan-Cohen, R., Brooks-Gunn, J., Raikes, H.H., Love, J.M., Kisker, E.E., Vogel, C., Jones-Harden, B. (2007, April). The Impact of Home-Based Programs on Children and Families in Early Head Start. Paper presented at the Biennial meeting of the Society for Research in Child Development in Boston.

Matthews, J.M. and Hudson, A.M. (2001). Guidelines for evaluating parent training programs. Family Relations, 50, 77 – 86.

McDill, E.L., Natriello, G., and Pallas, A.M. (1986). A population at risk: Potential consequences of tougher school standards for school dropouts. American Journal of Education, 94, 135-181.

Miller, W.R., and Rollnick, S. (2002). Motivational interviewing: Preparing people for change. New York: Guilford Press.

Miller-Heyl, J., MacPhee, D., & Fritz, J. J. (1998). DARE to be You: A family-support, early prevention program. Journal of Primary Prevention, 18, 257-285.

Minkovitz, C.S. et al (2003). A practice-based intervention to enhance quality of care in the first 3 years of life: The Healthy Steps for Young Children Program. JAMA, 290 (23), 3081-91.

National Clearinghouse on Child Abuse and Neglect Information (1998). Prevention pays: The costs of not preventing child abuse and neglect. Washington, DC: Author.

National Research Council (1993). Understanding child abuse and neglect. Washington, DC: National Academy Press.

NICHD Early Child Care Research Network (2002). Parenting and family influences when children are in child care: Results from the NICHD Study of Early Child Care. In J. Borkowski, S. Ramey, M. Bristol-Power (Eds.), Parenting and the Child's World: Influences on Intellectual, Academic, and Socio-emotional Development (pp. 99-123). Mahweh, NJ: Erlbaum.

NICHD Early Child Care Research Network (2003). Families matter—Even for kids in child care. Developmental and Behavioral Pediatrics, 24 (1), 58-62.

O'Brien, T., Garnett, D.M., & Proctor, K. (2002). Impact of the Parents as Teachers program. Denver, CO: Center for Human Investment Policy, Graduate School of Public Affairs, University of Colorado at Denver.

Olds, D.L., Eckenrode, J., Henderson, C.R., et al. (1997). Long-term effects of home visitation on maternal life course and child abuse and neglect: Fifteen year follow-up of a randomized trial. JAMA, 278 (8), 637-643.

Olds, D.L., Henderson, C.R., Cole, R., et al. (1998). Long-term effects of nurse home visitation on children's criminal and anti-social behavior: Fifteen year follow-up of a randomized trial. JAMA, 280 (14), 1238-1244.

Pfannenstiel, P. (1999). School entry Assessment Project: Report on Findings. For Missouri Department of Elementary and Secondary Education.

Pfannenstiel, J. C., Lambson, T., & Yarnell, V. (1991). Second wave study of the Parents as Teachers program. St. Louis, MO: Parents as Teachers National Center.

Pfannenstiel, J. C., Lambson, T., & Yarnell, V. (1996). The Parents as Teachers program: Longitudinal follow-up to the second wave study. Overland Park, KS: Research and Training Associates.

Pfannenstiel, J., Seitz, V. , & Zigler, E. (2003). Promoting school readiness: The role of the Parents as Teachers program. NHSA Dialog: A Research-to-Practice Journal for the early Intervention Field, 6, 71-86.

Pfannenstiel, J.C. & Seltzer, D. (1985). Evaluation Report: New Parents as Teachers Project. Overland Park, K.S: Research & Training Associates.

Pfannenstiel, J.C. & Seltzer, D.A. (1989a). New Parents as Teachers: Evaluation of an early parent education program. Early Childhood Research Quarterly, 4, 1-18.

Pfannenstiel, J.C. & Seltzer, D.A. (1989b). New Parents as Teachers project: A follow-up investigationEvaluation of an early parent education program.

Pfannenstiel, JP, and Zigler, E. (2007). Pre-kindergarten experiences, school readiness and early elementary achievement. Report prepared for the Ewing Marion Kauffman Foundation.

Reid, J.B., Patterson, G.R., and Snyder, J. (2002). Antisocial behavior in children and adolescents: A developmental analysis and model for intervention. Washington, DC: American Psychological Association.

Sanders, M.R., Markie-Dadds, C., Tully, L.A., and Bor, W. (2000). The Triple P-Positive Parenting Program: A comparison of enhanced, standard, and self-directed behavioral family intervention for parents of children with early onset conduct problems. Journal of Consulting and Clinical Psychology, 68, 624-640.

Seitz, V., Rosenbaum, L.K., and Apfel, H. (1985). Effects of family support intervention: A ten-year follow-up. Child Development, 56, 376–391.

Shonkoff, J. P. and Phillips, D.A. (Eds.) (2000). From Neurons to Neighborhoods: The Science of Early Childhood Development. Washington DC: National Academy Press.

U.S. Department of Education (1999). Taking responsibility for ending social promotion. Washington DC; Author.

Wagner, M., Cameto, R., & Gerlach-Downie. (1996). Intervention in support of adolescent parents and their children: A final report on the Teen Parents as Teachers Demonstration. Menlo Park, CA: SRI International.

Wagner, M.M. & Clayton, S.L. (1999a). The Parents as Teachers program: Results from two demonstrations. The Future of Children: Home Visiting: Recent Program Evaluations, 9(1), 91-115.

Wagner, M., Clayton, S., Gerlach-Downie, S., & McElroy, M. (1999). An evaluation of the Northern California Parents as Teachers demonstration. Menlo Park, CA: SRI International.

Wagner, M., Iida, E. & Spiker, D. (2001). The Multisite Evaluation of the Parents as Teachers Home Visiting Program: Three-Year Findings from One Community. Menlo Park, CA: SRI International.

Wagner, M., Iida, E., Spiker, D., Hernandez, F., and Song, J. (2001). The multisite evaluation of the Parents as Teachers program: Three-year findings from one community. Menlo Park, CA: SRI International.

Wagner, M. & Spiker D. (2001). Multisite Parents as Teachers Evaluation: Experience and outcomes for children and families. Menlo Park, CA: SRI International.

Wagner, M., Spiker, D. & Linn, M.I. (2002). The Effectiveness of the Parents as Teachers program with low-income parents and children. Topics in Early Childhood Special Education, 22, 67-81.

Wandersman, L. (1987). New directions for parent education. In S.L. Kagan, D.R. Powell, B. Weissbourd, and E.F. Zigler, (Eds.), America's Family Support Programs. New Haven, CT: Yale University Press.

Wasik, B., Ramey, C., Bryant, D., & Sparling, J. (1990). A longitudinal study of two early intervention strategies: Project CARE. Child Development, 61, 1682-1696.

Webster-Stratton, C. (1985). Comparison of abusive and non-abusive families with conduct-disordered children. American Journal of Orthopsychiatry, 55, 59-69.

Webster-Stratton, C., & Lindsay-Woolley, D. (1999). Social competence conduct problems in young. children: Issues in assessment. Journal of Clinical Child Psychology, 28, 25-43.

Webster-Stratton, C. (1998). Preventing conduct problems in Head Start children: Strengthening parent competencies. Journal of Consulting and Clinical Psychology, 66, 715–730.

Weissbourd, B. (1987). A brief history of family support programs. In S.L. Kagan, D.R. Powell, B. Weissbourd, and E.F. Zigler, (Eds.), America's Family Support Programs. New Haven, CT: Yale University Press.

Wolfe and Tefft, N. (2006). Childhood interventions that may lead to increased economic growth. LaFollette Policy Report, Vol. 16, No. 2.

World Health Organization (1992). The ICD-10 classification of mental and behavioral disorders: Clinical descriptions and diagnostic guidelines. Geneva: World Health Organization.

Schor, L. (1988). Within Our Reach: Breaking the Cycle of Disadvantage. New York: Doubleday.

Schweinhart, L. J., Montie, J., Xiang, Z., Barnett, W. S., Belfield, C. R., & Nores, M. (2005). Lifetime effects: The High/Scope Perry Preschool study through age 40. Monographs of the High/Scope Educational Research Foundation, 14. Ypsilanti, MI: High/Scope Press.

Zedlewski, S. (2002). Work and barriers to work among welfare recipients in 2002. No. 3 in eries, "Snapshots of America's Families III." Washington DC: Urban Institute. Downloaded from http://www.urban.org/publications/310836.html, on August 23, 2007.

Zigler, E., Pfannenstiel, J., Seitz, V. (2008). The Parents as Teachers Program and school success: A replication and extension. Journal of Primary Prevention, 29, 103-120.