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Children, Families and Poverty:

Definitions, Trends, Emerging Science and Implications for Policy

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Abstract

Now, more than ever, it is crucial to address the topic of children and poverty in the U.S., given current scientific knowledge about poverty's influence on children and effective strategies to mitigate its negative impact. In this report, we summarize the best available information on definitions and trends in child poverty, policy responses to child poverty and the impact of poverty on children's health and development. Research suggests that various factors exert upward and downward pressure on child poverty rates. Upward pressure is exerted by declining work rates for men, stagnant wages for low-wage workers, increasing rates of children raised in female-headed households, and growing gaps in educational attainment. Downward pressure is exerted by the U.S. system of antipoverty policies and programs, which appears to be cutting "pre-transfer" poverty rates by more than 50%. Nonetheless, child poverty rates in the United States are high by both historical and international comparison. We then review the emerging science on biological and ecological processes by which poverty affects child development and key findings regarding the efficacy of comprehensive strategies to reduce poverty and to promote the human capital development of poor children. In the final section, we reflect on implications for moving forward in science and policy.

In 2010, in the shadows of the Great Recession, 46.2 million Americans lived in "poverty" using the federal government's official measure of poverty (National Poverty Center, 2012). Fully 15.5 million of poor Americans are children under the age of 18 (Addy & Wight, 2012). Thus 15.1% of the country's population and 21% of all its children are poor. Over the last 40 years, the national poverty rate has fluctuated from a low of 11.1% in 1973 to a high of 15.2% in 1983 (National Poverty Center, 2012). Such numbers, percents and time trends are the basic facts of poverty in America that the media, politicians, policymakers and the concerned public typically track. In this *Social Policy Report*, we examine definitions of poverty, the numbers and time trends that derive from the definitions, and what they mean for the nation's children and families. First, we ask "what is poverty?" and "why is it important at this time to address the topic of children, families and poverty in the U.S.?" Second, we review some of the emerging basic science on the influence of poverty on children and families to better understand its grave and complex consequences. Third, we turn to applied (intervention and policy) science for insights about effective strategies to address the multiple challenges that children and families in poverty face. Finally, on the basis of these reviews of concepts, definitions, and basic and applied research, we conclude with critical reflections on a way forward.

Definitions and Trends

What is Poverty?

In many ways, the definition of poverty that is used to benchmark American families' economic struggles is unambiguous: A specific dollar value for yearly income (such as \$17,568) is used as a threshold for families of a given size (e.g. including an adult with two children) in a given year, and if family income falls below that bright line, the family is considered to be "in poverty." However, when social scientists step back to consider the root causes of poverty, its impacts on development, and preferred program and policy interventions to tackle poverty, it is clear that poverty can be defined in several other ways (Aber, Jones & Raver, 2007). For example, "relative" poverty illustrates how far a family's income is from the national median for families, while "subjective" poverty reflects individuals' perceptions and local economic conditions. The "family self sufficiency standard" serves as an additional measure, taking into account what it would take to meet family's basic needs without relying on external, government, or charitable support. Among these definitions and estimates, the official U.S. poverty line represents the lowest "bar" and therefore, the figures we noted previously (where 15.1% of the country's population and 21% of its kids were "poor" in 2010) represent lower bound estimates of poverty in this country.

In this report, we primarily will use the U.S. official definition of poverty and child poverty (Citro & Michael, 1995), despite its limitations, because the vast amount of basic and applied research in the U.S. uses these official definitions. As mentioned earlier, children in families with incomes less than 100% of the poverty threshold are considered poor. In addition, children in families with incomes below 50% of the poverty threshold currently are defined as in deep poverty and those in families with incomes below 200% of the poverty threshold (approximately the same as the "family self-sufficiency standard") are considered "low income."

Why a Focus on Children, Families and Poverty?

Poverty serves as a major risk factor for non-optimal child development. Poverty in childhood, and especially deep poverty in early childhood, is associated with a very broad range of problems in physical-biological, cognitive-academic and social-emotional development (Duncan & Brooks-Gunn, 1997) and evidence grows that these problems persist into adulthood (Johnson & Schoeni, 2010). After years of debate, it is now clear that low family income actually has a causal impact on non-optimal health and development. Important questions remain about the mediating processes through which poverty affects child health and development. But rapid progress in understanding these causal processes is being made, which contributes to improved scientific understanding of child development and offers new insights into important targets for program and policy interventions.

Since poverty leads to substantially higher risk of non-optimal outcomes for both children and adults, citizens and policymakers have important reasons to be concerned. Poverty itself is a major contributor to many of the most serious social problems facing our nation, including widening health and academic achievement gaps between high and low income

children (Reardon, 2012), high rates of school failure and dropout (Chapman, Laird, Ifill, & Kewal Ramani, 2011), declining rates of college attendance and graduation (Bailey & Dynarski, 2011), and a growing skills gap between what the U.S. economy requires from young workers to make a middle class income and what many young adults possess (Duncan & Murnane, 2011). Notably, while poverty disparities in academic achievement have grown over the last several decades, corresponding racial disparities have actually declined (Reardon, 2012). Thus, while race and ethnicity are correlated with poverty in this country, we focus on poverty in this paper given the substantial differences in outcomes between poor and nonpoor children. In sum, according to the best scientific research and to policy analysts across a broad range of the political spectrum, reducing poverty and ameliorating its negative effects on human capital development are essential to returning the U.S. to its historical legacy of being the land of opportunity (Haskins & Sawhill, 2009).

And Why Now, in the Fall of 2012?

Fifty years ago, Michael Harrington published *The Other America* (1962), a wake-up call to the nation describing invisible pockets of poverty in a nation of plenty. Two years later, Lyndon Johnson declared his famous “War on Poverty.” In this section, we briefly outline trends in child poverty over the last 50 years, describing the nation’s historic policy responses to poverty (both to reduce poverty and to enhance and protect children’s health and development in the face of poverty). We then assess the impact of policy on poverty, describing why, despite considerable effort (and indeed success), we find ourselves back where we were 50 years ago, facing a daunting set of challenges.

Trends in Child Poverty

Figure 1 (from Shanks & Danziger, 2010) charts changes in the child poverty rate from 1960 to 2009. After a dramatic decline in child poverty over the 1960s (to a historic low in 1968), rates have risen and fallen with the business cycle ever since. Two periods of increasing poverty rates (late 1970s to early 1980s, late 1980s to early 1990s) were followed by two periods of decreasing rates (early 1980s to late 1980s, early 1990s to 2000). Figure 1 also charts trends by race/ethnic group. While the trends follow generally the same pattern of rise and fall over time for White, Black and Latino children, their average rates vary dramatically. Over the last 35 years, rates for White children have varied between 10% and 15%, but rates for the Black and Hispanic children have varied from just above 25% to just below 50%.

Different factors push poverty rates up or down. Factors that exert upward pressure on child poverty rates include low work rates, low wage rates, and adverse changes in family structure and trends in education (Haskins, 2011). Women’s work rates were relatively low in 1980 (about 46%), increased steadily from 1980 to 2000, but have flattened out in the face of two recessions from 2000 to 2010. Single and never married mothers, whose children experience especially high poverty rates, increased their work effort quite dramatically from 1992 to 2000 in response to both welfare reform legislation and a booming economy. In contrast, men’s work rates were relatively high in 1980 (about 74%) and did not change much until they began to decline from 2008 to 2010 in the face of the Great Recession. Especially hard hit in periods of economic downturn over the last three decades have been

young Black men. Haskins (2011) describes these secular trends in U.S. work rates as “a mixed bag,” with trends “toward less work by males, especially Black males, and more work by females, including low-income mothers” (p. 4).

Wage rates also have an important impact on poverty rates. According to calculations by the Economic Policy Institute using U.S. Census Bureau data from 1973 to 2009, wages for the 10TH percentile (or the least well-paid) of the income distribution fell through the late 1980s and then returned to their 1973 levels. In contrast, wages for workers in the top half of the income distribution rose steadily from the early 1980s, increasing by 10% for the 50TH percentile group and 32% for the 90TH percentile group. Haskins (2011) summarizes the combined work and wage trends succinctly: “people with low skills and little schooling cannot escape poverty unless they work, but even if they do work and their only income is wages, they are likely to be poor” (pp. 5–6).

Family structure also affects poverty rates. About 11% of children in married couple families are poor, but 44.3% of children in female-headed families are poor (U.S. Census Bureau, 2009). Over the last 50 years, the proportion of families with children that are headed by females has nearly quadrupled, from 6.3% to 23.9% (U.S. Census Bureau, 2009). The increased proportions of children being raised in female-headed households has exerted clear upward pressure on child poverty rates over the last 50 years.

Parent education is another factor influencing child poverty rates. Recent census data indicates that in 2009, the median income of families headed by a college graduate was about \$99,700 while that of the average high school dropout is about \$31,100 (U.S. Census Bureau, 2009). While college graduation rates have increased for all race/ethnic groups over the last 30 years, Hispanics (13%) and Blacks (19%) complete college at one-third to half the rate of Whites (39%) (U.S. Census Bureau, 2009). Notably, on measures of college entry, persistence, and completion, the increases over time have been largely concentrated in the top end (rather than the bottom) of the income distribution (Bailey & Dynarski, 2011). In fact, the disparity is quite stark: with the top two quartiles increasing college entry rates by 22 percentage points and the bottom increasing by only 10 percentage points—resulting in a growing gap in college entry rates between the rich and poor. And, even among those who enter college, poverty continues to exert a toll on degree receipt (Bailey & Dynarski, 2011).

If declining work rates for men, stagnant wages for the low-skilled worker, increasing rates of children raised in female-headed families and growing gaps in educational attainment exert upward pressure on child poverty rates, a logical, if surprising question might be “Why have child poverty rates not increased more?” The preponderance of the evidence suggests that over and above temporary improvements caused by upturns in the economy, it is public policy that has exerted consistent downward pressure on child poverty rates. We turn next to summarizing the research that supports this judgment.

The impact of anti-poverty programs and policies on U.S. poverty rates—A set of new studies have identified the policy steps that the U.S. has taken to reduce poverty and examined whether those steps have been effective (Ben-Shalom, Moffit & Scholz, 2011; Gershoff, Aber & Raver, 2003; Haskins, 2011). For example, Haskins (2011) identifies 82

specific means-tested federal programs that provide assistance to the poor, relying on long-term trend data for means-tested spending from the Congressional Research Service. He focuses on spending levels for 10 major means-tested programs, and estimates outlays of \$621 Billion in 2010, with spending having increased six-fold from 1968 to 2004.

In comparison, Ben-Shalom et al. (2011) include both means-tested programs such as Medicaid, the Supplemental Nutritional Assistance Program (SNAP, formerly Food Stamps), the Earned Income Tax Credit (EITC) and Temporary Assistance to Needy Families (TANF, formerly AFDC) and also social insurance programs (like Social Security, Medicare and Unemployment Insurance). Because Ben-Shalom et al. take the most comprehensive view on antipoverty programs and policies, we emphasize their findings here. For FY 2007, Ben-Shalom et al. estimate about \$523 Billion in annual expenditure on nine major means-tested programs for low-income persons and families. In addition, while not targeted primarily on low-income persons or families, five social insurance programs accounted for another \$1.105 Trillion in expenditure, much of which goes to poor and low-income individuals (See Table 1). While this demonstrates substantial support for the poor, it is notable that U.S. expenditure on social programs was only 75% of the OECD 30-country average in 2005 (Adema & Ladaïque, 2009), leaving the U.S. behind most of our peer countries in the OECD (Garfinkel, Rainwater & Smeeding, 2006).

Regarding time trends, an initial look at Ben-Shalom et al.'s (2011) numbers would suggest that U.S. spending on the poor went up: They show that both means-tested and social insurance programs grew faster than did GDP before 1995 and at about the same rate of growth as GDP from 1995 to 2007 (just before the Great Recession). But those data also highlight the relatively stable average growth in social spending in the U.S. since 1995 is a result of two very different trends: dramatic declines in TANF (i.e., the cash assistance program for needy families) and very large increases in SNAP. And, their evidence suggests that there was significant redistribution of expenditures on the poor over the period from 1984 to 2004: relatively more for the elderly and disabled and relatively less for single-parent families and the non-employed.

In summary, both in aggregate and per capita, the U.S. has very significantly increased expenditures on both means-tested programs and social insurance programs over the last four decades. And, this form of spending benefits lower-income families. As shown in Table 2, analyses of the Survey of Income and Program Participation (SIPP) data show that in 2004, without transfers, 29% of U.S. families would fall below the poverty line; but after transfers the poverty rate falls to 13.5%. In 2004, the U.S. system of means-tested and social insurance programs reduced poverty by 16 full percentage points (and reducing deep poverty and near poverty by nearly as much).

What can we conclude? First, these analyses highlight the ways that poverty is not a “natural state” dictated by the exigencies of labor policy and recession, but instead can be clearly remediated by anti-poverty policy. Second, we (and others) argue that, as successful as the U.S. system appears to be in cutting “pre-transfer” poverty rates by more than 50%, we have substantial room for further improving our nation’s track record in tackling poverty.

The current social-economic and policy-political context—Questions regarding the causes and consequences of poverty for children come at a critical juncture in American economic history. We are just beginning to emerge from the Great Recession of 2007, one of the worst economic periods of our time (Elsby, Hobijn, & Sahin, 2010). Yet most of the research on child poverty trends and the effectiveness of antipoverty policies dates from before the Great Recession. What about now?

As would be expected, in the wake of the recession, both unemployment rates and poverty rates increased. Low income families have substantial difficulty finding jobs in the current economic climate. And, since we have largely placed the social safety net *on top of* employment, tying benefits for poor families to their work effort (with the notable exception of food assistance through SNAP), they are hit doubly hard by the recession. In short, not only have poor families lost ground on employment like their middle and upper income neighbors, but they have also lost their opportunity to take advantage of key benefits, like the Earned Income Tax Credit, that were so pivotal to move them out of poverty in recent times.

The Great Recession could not have come at a worse time for America's poor children and families. Growing federal budget deficits and resulting increases in national debt have led to calls from both major political parties to cut the federal budget deficit (although how to cut the federal deficit is fiercely disputed). The need to cut the deficit in the long term clashed with the need for government to provide a significant short-term stimulus to the economy to get it going again and to bring down the unemployment rate. The Obama administration fought for and won passage of the American Recovery and Reinvestment Act (ARRA). Many key provisions of the Act supported children, especially low-income children, by increasing public resources through approximately two dozen federal programs that benefit children (Aber & Chaudry, 2010). An estimated \$153 Billion of the \$787 Billion in ARRA, or approximately 20% of the total, was dedicated to children and children's programs (First Focus, 2011). These temporary investments did reduce the unemployment rate and partially protected federal, state and local investments in low-income children as well. But the ARRA provisions are ending in 2012. How to get the economy going again and generate new jobs are the paramount issues in the Presidential and Congressional elections of 2012. Alarming, while there is hot debate about how to protect and revive America's middle-class families, there are many fewer debates or compelling new ideas about how to protect America's low-income children and families and help them move into the middle class¹. Finally, in addition to major national elections and huge decisions to make about the economy and federal budget deficits, a large number of pieces of federal legislation that directly impact low-income children and their families are coming up for re-authorization (e.g. TANF, ESEA) or face an uncertain future (e.g. the Medicaid provisions of the Affordable Care Act).

In short, the U.S. is still in the throes of the biggest economic crisis since the Great Depression; poor families have been hit doubly hard—losing both employment and the

¹One exception to the relative silence about poverty issues in the 2012 presidential campaign is the dust-up which erupted in September about whether President Obama favored ending the work requirements central to the welfare reforms of the 1990's. The record is clear that he does not favor ending work requirements.

social safety net tied to employment; the short-term policy actions that protected low-income children and families from the Great Recession have begun to expire; child poverty rates are up; the 2012 Presidential and Congressional election campaigns have not included much discussion about poverty; and major policies affecting poor children and families will be reconsidered in 2013. For all these reasons, it is a very compelling time to address issues of children, families and poverty.

The Emerging Science of Poverty

A long history of research has examined questions of whether, how, and for what outcomes income “matters” for children’s well-being. The answer to this question is key to informing policy decision-making about whether and how to effectively target policy to improve the lives of low-income children. In this section, we discuss the state of the science on income effects. In doing so, we first highlight the way in which the last decade has “put to bed” some key questions about income effects, while also opening new questions about pathways that are key for further investigation.

A wealth of research has been devoted to addressing the question about the magnitude of income effects and, most critically, whether or not the associations between income or poverty and outcomes for children are mere associations (and thus overestimate the effects of poverty) or represent causal relations (see Mayer, 1997). Fortunately, a number of studies have tried to address this question by leveraging planned (random-assignment) experiments (e.g., Duncan, Morris, & Rodrigues, 2011); “natural” experiments (e.g., Akee, Copeland, Keeler, Angold, & Costello, 2010); policy changes outside of families’ control (e.g., Dahl & Lochner, 2008), or, finally, by conducting rigorous analyses of nonexperimental data (e.g., Votruba-Drzal, 2006). The consensus from this work is that there are “modest” positive effects of income on multiple domains of children’s development. These studies together show that income effects range from about .10-.20 of a standard deviation with \$1,000 increase in family income for families at the low end of the income distribution. Using these estimates, a grant the size of the EITC (at \$3k-\$4k) could generate moderate to large increases in outcomes for children.

What remains unclear, however, is the precise pathways by which income effects occur beyond the economic investment (Becker, 1981) and family stress (McLoyd, 1990) pathways that are typically invoked. New findings from related social-science disciplines, such as neuroscience, economics, and sociology have not been fully integrated into a conceptual frame for this area of research. In the next section, we begin to build this more nuanced conceptual frame in order to understand how to improve the trajectories of low-income children.

Common Theories of Income Effects

The two most commonly considered complementary theories about how income affects outcomes for children are drawn primarily from the fields of economics and psychology, respectively. From economics (and family sociology), income is thought to affect children through the investments their parents can make in their developmental outcomes (Becker, 1981; Coleman, 1988). Income enables parents to purchase both material resources for their

children (books, toys) as well as nonmonetary goods (e.g., time). From developmental psychology (and family sociology), seminal studies conducted on families losing income in the Great Depression (Elder, 1974) and during other periods of economic shocks like farm failures (Conger & Conger, 2002) have highlighted the role of income in increasing parents' stress and impairing parents' child-rearing practices. This theoretical work on the stress effects of poverty has been extended to single-parent African-American families, showing how poverty may impinge on children's social-emotional development through disruptions in parents' psychosocial well-being and parenting (McLoyd, 1990).

Importantly, parents as well as children can be affected physiologically by poverty, and these effects may explain some of the effects of poverty on parents' health.

Both of these traditional theories have largely focused on the family unit and effects on behavior of parents and children, while simultaneously paying relatively less attention to both the internal (biological) processes and external (environment) factors beyond the family unit. Fortunately, advances in neuroscience and sociology/ecological science allow us to expand the conceptual frame (inward and outward) to address these issues. The issues raised from these disciplines are largely not new, but they are only recently being integrated to an interdisciplinary view of understanding the effects of income and poverty on children. We focus on a few key findings below by way of example.

Biological Processes in the Effects of Poverty: Advances in Neuroscience

What is going on inside the bodies of low-income children that would make poverty disrupt their behavior and achievement? Recent work on the physiological impacts of stress suggests that the initial response may lie in the brain, particularly in the emotional systems of the brain, with far-reaching physiological consequences (Ganzel, Morris, & Wethington, 2010; McEwen & Gianaros, 2011). Current thinking argues that the stress-system is characterized by "allostasis" rather than homeostasis (Sterling & Eyer, 1988; McEwen & Stellar, 1993), such that rather than return to baseline following the experience of a stressful event, the stress-sensitive system matches internal processes with external demands (through a process called "allostatic accommodation;" Ganzel et al., 2010). In the case of poverty, this means that the child (or even the parent) in a low-income family, faced with a stressor, will respond physiologically by adjusting parameters to a range of functioning that is appropriate to that stressor.

The condition of poverty does not entail a single stressful event. And thus, the value of the allostatic model is that it can account for the physiological effects of *repeated* or *chronic* exposure to stressors on outcomes and address questions about how and for what outcomes poverty will have long-lasting consequences. Under repeated stressor exposure, which is more likely to occur in cash-strapped households and communities, the body "anticipates" the stressor by setting new set points in physiological systems (Sterling & Eyer, 1988). While preparing the body for the stressor in a number of ways (which is highly adaptive), these new set points also have long-term physiological costs (allostatic load; McEwen & Stellar, 1993) to physical and mental health outcomes. They do so through adverse changes to the cardiovascular system (with health implications), the immune system (with greater vulnerability to disease), and/or the neuroendocrine and cortical systems (with implications

for learning and decision-making), in ways that are “toxic” (Blair & Raver, 2012; Shonkoff & Gardner, 2012).

Importantly, parents as well as children can be affected physiologically by poverty, and these effects may explain some of the effects of poverty on parents’ health. Low-income adults have consistently been found to experience substantially deteriorating health, such as compromised immune functions and/or higher risk of cardiovascular disease, with increasing exposure to cumulative poverty-related stressors and at much earlier ages than their more advantaged counterparts (Geronimus, Hicken, Keane & Bound, 2006). These health effects may be a consequence of higher levels of allostatic load, with concomitant disruptions in both sympathetic and parasympathetic nervous system response, as indicated by altered cortisol, norepinephrine, and DHEA-S release and uptake that would explain these health effects (Chen Miller, Lachman, Gruenewald, & Seeman, 2012; McEwen & Seeman, 1999). Thus, adults who are caring for children under conditions of chronic and high economic stress are also likely to have health problems of their own. The implications of parent health for health care policy and the role of health care policy in ameliorating or reducing that burden are substantial.

This new thinking helps to specify more precisely the outcomes on which poverty might impinge, while also highlighting potential avenues for intervention. Much of the child development research on outcomes for children in poverty has focused on effects on academic achievement and social-emotional outcomes, with less attention to health effects and underlying brain-related processes. This work would suggest that more attention be paid to both—the health consequences of poor economic conditions as well as implications of such conditions for processes such as executive function and regulation (Blair & Raver, 2012). With regard to intervention, these models also imply addressing the stress-response system (e.g., successful coping), which is a critical addition to poverty-fighting policies.

Considering the neurobiological consequences of poverty also highlights another key nuance in our thinking about income effects on children—that poverty may or may not be a static state. Interestingly, such income instability or volatility has been largely understudied in the poverty literature, especially with regard to its implications for children (Hill, Morris, Wolf, Tubbs & Gennetian, in press). Yet, income volatility may especially disrupt children’s development by reducing the regularity of routines in their lives (e.g., mealtime routines, activities, and even sleep) and impinging on their health. Policy features, such as income eligibility limits for benefits and short recertification periods may exacerbate the problem of income volatility among families, while the availability of short-term low-cost loans could facilitate the smoothing of family income across periods when resources are scarce. In this way, attention to the issue of income instability may help us better develop a system of policies that promotes the development of low-income children.

Environmental Factors in Poverty Effects: Advances in Sociological/Ecological Science

Children and families living in poverty have inferior and sometimes toxic housing conditions, and those environments likely also impinge on the outcomes of low-income children (Evans, 2006). For example, housing conditions of low-income families include higher exposure to substandard physical characteristics (heating, sanitary conditions,

presence of environmental pollutants) as well as higher density (crowding); the implications of such conditions for family processes may be substantial (see Leventhal & Newman, 2010). Household characteristics such as lack of safety, noise and crowding are associated with greater cognitive and neuroendocrine indicators of stress and lower levels of child adjustment (Leventhal & Newman, 2010; Lepore, Shejwal, Kim & Evans, 2010). For example, a compelling study on the negative impact of noise shows how that the introduction of sound absorbent panels can improve preschoolers' letter-word-number recognition and language skills (Maxwell & Evans, 2000). Recent quasi-experimental and experimental studies of low-income families' housing mobility and their corresponding decreases in symptoms of anxiety and stress suggest that low housing quality (as well as neighborhood and neighborhood school quality, as we discuss below) may be an additional dimension of poverty-related risk to consider, even after taking income and psychological dimensions of poverty into account (Ludwig et al., 2008).

The effects of poverty also extend to neighborhoods. Less-advantaged neighborhoods provide fewer enriching opportunities for children such as parks, libraries, and children's programs (Brooks-Gunn, Duncan & Aber, 1997), while dangerous neighborhoods present physical and social hazards to children. A large body of research highlights how even living in close proximity to (as well as witnessing) violence in the community can negatively affect children's social-emotional and cognitive development (Leventhal & Brooks-Gunn, 2000; Sharkey, Tirado-Strayer, Papachristos & Raver, in press). Mechanisms for the negative impact of more violent and more socially disorganized neighborhoods on child outcomes may be both direct (via increased allostatic load) and indirect (such as through parental efforts to lower their children's risk of exposure to harm; see Roche & Leventhal, 2009).

The peer and parenting environments of low-income communities also likely differ from those in higher income communities (Jencks & Mayer, 1990). Peers exert strong influences on children's behavior for a number of reasons, resulting in children's higher rates of delinquency in higher risk neighborhoods. For example, children may imitate their peers' behaviors, emulating the behavior of those around them. But at the neighborhood level, other processes are at play, as stigma is reduced for delinquency when such behaviors occur more frequently, and the likelihood of getting caught is reduced because of congestion effects in law enforcement (Cook & Goss, 1996). And even beyond peers, adults in a neighborhood can influence young people who are not their children by acting as role models or, more importantly, by exerting social control on their own children's as well as their friends' behavior (Sampson, Raudenbush, & Earls 1997).

These findings demonstrate that poverty can dictate the broader "contextual" state of the family rather than merely be a measure of the amount of resources within a given household. Thus, changing family income alone, without attending to the broader context of poverty, may not be sufficient to improve the outcomes of children. As we discuss in the next section, policies can be expanded to address issues in neighborhoods or communities, and doing so may be key to making a substantial difference in the lives of low-income children.

Advances in Applied Intervention and Policy Research

As previously proposed, the U.S. system of antipoverty programs and policies has served to reduce poverty. Nonetheless, the general and child poverty rates remain stubbornly high. In this section, we turn to research over the last decade that may provide insights about program and policy innovations and reforms that could (1) directly reduce poverty, or (2) protect and enhance the human capital development of poor children or parents. In this way, they map closely onto the investment and family stress theories of income effects. The goal of this is to selectively and strategically focus on a few initiatives (i.e. rather than an exhaustive review) that hold special promise and merit serious consideration.

Poverty Reduction Models

Particularly striking recent changes in U.S. antipoverty policy include a decline in cash assistance through the welfare system and an increase in cash assistance through the tax system. In this section, we focus on the latter in part due to the fact that the former is currently serving an increasingly smaller proportion of the low-income population (due to changes in eligibility requirements among other things).

The largest form of cash assistance for low-income families is delivered via the Earned Income Tax Credit (EITC). Eligibility for EITC is contingent on work. A family earns 40¢ of a tax credit for each dollar earned from \$1 to \$10,000 dollars of earned income. None of the credit is lost until a family's earned income reaches beyond the poverty line. Then the credit is phased out at a slower rate until it reaches zero at about \$40,000 of earned income per year. The tax credit is first used to offset tax liabilities. But if the value of the credit exceeds a family's tax liability, the remainder of the credit is refundable. Both the tax offset and the refundable features of the credit are critical to its antipoverty effect. Another form of cash assistance that is targeted on a broad range of families, not just poor families, with children under age 17 is the Child Tax Credit (CTC). Under current law, families can receive a CTC of \$1,000 for each child. Like the EITC, the CTC is partially refundable and conditional on earnings, where some families may either earn too little (under \$3,000), or earn too much (e.g. \$75,000 for single parents and \$130,000 for married couples) to get the credit.

Together, these refundable tax credits are estimated to lift 7.2 million Americans, including 4 million children out of poverty, which is more than any other program or category of program at any level of government (Marr & Highsmith, 2011). And, by tying support to work, they encourage rather than discourage work effort. Not only do refundable tax credits reduce child poverty; they also promote child development. Dahl and Lochner (2008) found that with each increase of \$1,000 brought about by income tax credits, children's reading and math achievement (measured by standardized tests scores) increased by 0.06 SD. Importantly, these positive effects were somewhat larger for lower income families.

In light of the higher level of political and public support for efforts to combat poverty via the tax system (rather than the welfare system), tax policy is a particularly promising avenue to directly reduce poverty. A variety of changes could be made that would increase the antipoverty effects of the EITC and the CTC. As examples, Congress could raise the

maximums and increase the phase-in rates of both credits; the CTC could become fully refundable. Of course, these changes would require additional federal expenditures. But decisions could be made to redistribute government expenditures to strengthen tax credits for poor families and their children, and to consider additional tax credits beyond those tied to employment alone. Even so, the question is whether such approaches are sufficient to *substantially* improve outcomes for poor children, whose outcomes fall so far behind those of middle- and high-income families.

Human Capital Development Models

A number of programs designed to advance the human capital of low-income children have been evaluated and show promise for such children, at least in the short term. These span the age range from early childhood to adolescence, targeting children (with one exception) primarily *outside* of the family—in the child care and education services where children spend a substantial component of their day. These interventions often target the quality of interactions between children and adults or peers— that is, those same interpersonal processes that are eroded by poverty-related stressors (Bronfenbrenner & Morris, 2006). Certainly, none of those programs can be said to completely make up for the deficits of growing up in poverty. With that caveat in mind, we discuss promising programs below, to illustrate progress made over the last several decades in identifying programmatic strategies that can improve the outcomes of low-income children.

Preschool is a centerpiece of policy efforts intended to reduce the achievement gap of low-income children, in part because of the early emergence of the achievement gap before the start of school and in part because of cost-benefit calculations that show that even very expensive preschool efforts nonetheless can be cost-effective (Reynolds & Temple, 2006). Comprehensive early childhood programs for children at risk have the potential to improve cognitive and academic outcomes and have extended benefits over time. In fact, a meta-analysis estimated that the average effect size on cognitive measures was half a standard deviation in size (Shager, et al., 2012). The two most widely touted comprehensive programs—Perry Preschool and Abecedarian, have both been tested in small-scale randomized trials and show sizeable short and long-term benefits (Campbell, Pungello, Miller-Johnson, Burchinal, & Ramey, 2001; Weikart & Schweinhart, 1997).

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The more recent findings from the Head Start impact study, providing a rigorous test of the effects of Head Start across 84 nationally-representative delegate agencies, have shown more modest, but still positive, short-term effects on outcomes for children (USDHHS, 2005). But there also appears to be considerable fade out of effects as children advance to elementary school (USDHHS, 2010). Now, a “next generation” of preschool studies shifts from the question of *whether* preschool benefits poor children, to asking *how* best to provide sustained, high-quality opportunities for learning within multiple educational contexts. Recent cluster-randomized trials have demonstrated that effect sizes for the impact of preschool intervention on low-income children’s cognitive and behavioral outcomes can be substantially larger when the quality of the classroom environment is targeted (Bierman,

Nix, Greenberg, Blair, & Domitrovich, 2010; Morris, Raver, Millenky, Jones & Lloyd, 2010; Raver et al., 2011). From that perspective, child care, preschool, pre-kindergarten, and kindergarten programs are then best conceptualized not as a patchwork system of care, but as multiple early educational platforms that bridge home and formal schooling. It is to those two respective contexts of home and school that we now turn.

For very young children, fewer promising interventions have emerged, in part because younger children spend a substantial amount of time with parents and it has proved to be more challenging to intervene with parents than with teachers. Several models capitalizing on early childhood settings and/or home visitation such as Early Head Start (Love et al., 2010) and Nurse Family Partnership (Olds, Henderson, Tatelbaum & Chamberlin, 1986) have shown small positive effects on quality of parenting and school readiness for children in the infant and toddler years. Two newer approaches to changing parenting are also worth noting and show promise in changing child outcomes. First, some interventions rely on an interventionist who video-records the parent and child and uses review of the video with the parent to support positive parenting (Dozier et al., 2006; Landry, Smith, Swank & Guttentag, 2008; Mendelsohn, et al., 2005). Second, Family Check up (Shaw, Dishion, Supplee, Gardner & Arnds, 2006) is a homebased, family-centered intervention that utilizes an initial ecologically-focused assessment to promote motivation for parents to change child-rearing behaviors, with follow-up sessions on parenting and factors that compromise parenting quality.

For school-age children, comprehensive school reform models have burgeoned over the last decade. These models target not only teachers' professional development and practice in individual classrooms, but strive to alter the entire school context by offering curriculum aligned across grade levels. Some of the most well-known of such programs, such as Success for All (SFA), have been examined in over 100 studies, with SFA demonstrating improvement in children's early reading skills across several RCT evaluations (AIR, 2006; Borman et al., 2007). In addition, other models for school-age children have also targeted children's social and emotional learning (SEL), recognizing that children's social experiences, emotion skills and regulation can support or impede their own and others' academic success in school (Durlak, Weissberg, Dymnicki, Taylor & Schellinger, 2011; Jones, Brown, & Aber, 2011). A recent meta-analysis finds that SEL programs successfully improve children's academic performance, with effects ranging from a fifth to a quarter of a standard deviation (Durlak et al. 2011). Key to these initiatives has been the recognition that intervention-driven academic gains that are earned within a given grade or school year may not be sustained unless that intervention or school reform effort is extended across grades. That said, these models provide another promising strategy for intervention with school-age children.

For the oldest children, there are a few programs with promise in reducing the intergeneration cycle of poverty. Evaluations of small schools of choice in the New York City system, for example, have shown benefits to children's graduation rates and prospects for college attendance (Bloom & Unterman, 2012). The feature that differentiates these schools is not only their size, but their emphasis on academics, personalized attention, and community relationships. Another example of a promising approach for this age group is a

set of programs called “Career Academies” that connect older children to the world of work (Kemple & Willner, 2008). These programs have substantial effects on the earnings of low-income young men as they moved into young adulthood (Kemple & Willner, 2008).

While there are a number of approaches that can boast success, the human capital development models for all age groups of children could do better. The core challenge is that while they all attempt to “make up” for the challenges of growing up in poverty they do nothing to change the economic conditions of families or communities. The result is that children get some dose of nutritious interactions, but these effects are continually undermined by the stressors of growing up in poverty. As we discuss next, there are innovative models that attempt to do both in the form of “conditional cash transfers.”

A Model Designed to Reduce Poverty and to Promote Human Capital Development: Conditional Cash Transfer Programs

Remarkably, while the research community has realized that the separation of the investment and family stress pathways is a false dichotomy, our policy efforts have largely proceeded on separate and parallel tracks. As the Haskins (2011) and Ben-Shalom et al. (2011) analyses describe, the U.S. system of antipoverty programs and policies include major investments to reduce poverty in the short-term via cash and in-kind assistance. They also include major investments aimed at stimulating the human capital formation of poor children, youth and parents. But in the U.S., there are few policy efforts designed to address both of these goals *simultaneously and synergistically*: that is, the reduction of income poverty in the short-term and increases in (parent) investment in children’s human capital development in the intermediate- and longer-term. However, in the southern hemisphere, one such approach known as holistic or comprehensive conditional cash transfers (CCTs) has been tried.

Comprehensive CCTs have been developed and implemented over the last 15 years, first in Latin America and increasingly in Africa and Asia. CCTs aim to 1) reduce poverty in the near term by providing cash support to families and to 2) increase parent investment in their own self sufficiency and their children’s human capital by making cash support contingent on certain behaviors that are consistent with such investments. In their review of the first wave of well-evaluated CCTs, Fiszbein and Schady (2009) concluded that CCTs can reduce poverty, increase the use of health, nutrition and education services and improve health outcomes, especially in early childhood. But there is less evidence that CCTs have an impact on children’s learning and academic achievement despite their positive impacts on school enrollment and attendance.

Comprehensive CCTs are one variant of the broader use of financial incentives to change behavior. Other types of financial incentives designed to change low-income people’s outcomes also have been evaluated over the last two decades with the range of targeted domains, value, and resulting impacts of different packages of incentives varying widely. Conceptually, one would not expect domain-specific incentives of less value to have the same impact on behavior and outcomes as multi-domain, higher value incentive systems. Thus, comprehensive CCTs are expected to have more synergistic effects across several domains of behaviors and outcomes. Moreover, they resolve some of the challenges presented earlier in terms of tying all incentives to employment highlighted in section I—in

times of high unemployment, CCTs that target education and health as well as employment can still support low-income parents' investments in children and help reduce poverty.

The first effort to adapt the holistic CCT approach to combat poverty in a developed country was undertaken by New York City government and named "Opportunity NYC/Family Rewards" (Aber, 2009; Riccio et al., 2010). Families were paid cash rewards of about \$3K a year (on average) on condition that parents and children undertake a variety of activities to advance children's education, families' preventive health care and parents' employment (see Riccio et al., 2010, for details). A rigorous random assignment evaluation of Family Rewards, undertaken by MDRC, is following 4,800 families and 11,000 children over the 3 years of participation of the program and 2 additional years after the CCTs are ended. Interim results after 2 years of the initiative are promising in some respects (Riccio et al., 2010). Family Rewards reduced current poverty and material hardship; increased savings and banking; increased school attendance, course credits, grade advancement and scores on standardized tests (but only for better-prepared high school students); increased families' health insurance coverage and receipt of medical and dental care (and reduced emergency room use). This is an impressive array of short-term outcomes, very much in keeping with the dual goal of CCTs: to reduce poverty in the short-term and to stimulate investments in human capital development in the long-term. But Family Rewards did not impact achievement test scores for most children; and while it increased employment in jobs not covered by the unemployment insurance (UI) system, it reduced employment in UI covered jobs.

We have argued elsewhere that Family Rewards represents CCTs 1.0 as the first attempt to implement this kind of program in the United States (Morris, Aber, Wolf, Berg, & Riccio, in press). New York City government and the Obama administration concurred that there was sufficient promise in the strategy to revise the CCT policy based on interim results, and to conduct a new random assignment trial of CCTs under the Obama administration's Social Innovation Fund in New York City and in Memphis, TN.

Why (and how) do we think that CCTs can do better than either poverty reduction or human capital efforts alone when the history of such programs is positive but not yet remarkable? What CCTs do really well at is reducing poverty, but they also encourage parents to take advantage of human capital development services. Yet, they have not yet generally been paired with "supply side" services to boost the quality of services, focusing instead on "demand side" adjustments (parents' take up of those services). If we can do all three—help encourage parents to take up services, while reducing family poverty *and* ensuring the services children are receiving are high quality—we may finally make a substantial dent in the effects of poverty for the next generation.

The recent work in the U.S. on CCTs is but one example of the many ways that the U.S. can adopt new, innovative approaches to combating poverty. Policy makers and prevention scientists may consider these interlocking components of poverty reduction (through economic levers), allostatic load and stress reduction (potentially through health levers), human capital promotion and behavioral change (through interactions), and, finally, community-improvement, as multiple "working parts" of comprehensive intervention. This

example could serve as a catalyst for other innovative models that strategically take a “both-and” rather than “either-or” approach to reducing material hardship and increasing the likelihood of children’s positive health, educational, and behavioral outcomes over time.

On a Way Forward

In this final section, we reflect on implications for moving forward on the program and policy front and on the research front.

Program and Policy Reflections

First, there is no single magic bullet to address the child and family poverty problem in the U.S. Rather, a combination of cost-effective and publicly supportable strategies is needed to reduce child poverty and to promote human capital development for poor children. But our both/and approaches in the past have either not been enough to reduce child poverty or have been poorly coordinated, failing to protect poor children from the worst effects.

Second, to more effectively reduce child poverty and to enhance children’s health and development will require a greater proportion of U.S. public expenditures being devoted to these efforts *and* creative redesign of poverty reduction and human capital development initiatives to achieve greater synergies across our investments. Alarmingly, antipoverty programs and policies remain in silos that are insufficiently coordinated to obtain optimum impact for our investments.

Third, the costs of doing nothing more and/or differently in poverty reduction and human capital investment are high. Poverty’s impact on children’s educational achievements and health result in lower productivity of the nation’s economy and higher health care costs. Indeed, cost-benefit analyses of many antipoverty programs suggest they more than pay for themselves (Heckman, 2006).

Finally, programs that offer greatest promise may be those that consider ways to remedy both the material and the psychosocial conditions faced by families in poverty.

Our broad review indicates that the rate of poverty among our nation’s children and their families is not immutable. A productive policy strategy would be for policy makers, leaders, and community members at the state and federal level to set a target for how much of a reduction in the rate of U.S. poverty among children that we hope to accomplish in the coming 5 to 10 years (see: www.halfintention.org). Without a transparent commitment to an ambitious, yet achievable target for anti-poverty policy, it will be difficult to build a road-map of steps that we might take, as a nation.

Scientific/Research Implications

The emerging science suggests several issues that deserve high priority attention from the broadly interdisciplinary child development research community. First, perhaps the most important and exciting area of research is in the search for the processes that mediate the impact of poverty on children’s health and development. As the history of scientific research on income effects shows, there were great scientific challenges to establishing the causal

influences of poverty on children's health and development. There are even greater challenges to demonstrating that a complex process like allostatic load is a causal link to low and unpredictable family incomes and poor health and development (Ganzel et al., 2010). But these challenges can be met by joining the power of basic scientific research with rigorous experimental evaluations of antipoverty programs and policies.

Merging prevention science and developmental science can help program developers and policymakers identify new ways to support optimal outcomes among families facing an increasing level of economic pressure, in increasingly tough times with expanding levels of inequality. As but one example, the recent research on neuroendocrine processes of poverty-related "wear and tear" and increased allostatic load in adults and children exposed to chronic deprivation suggests that much of what we will learn in the next 5 to 10 years will have high levels of significance for their health as well as educational outcomes. This means that increased attention to prevention programs to support positive outcomes among poor families may offer major benefits to not only increased human capital but lowered health care costs for our nation over time.

Finally, programs that offer greatest promise may be those that consider ways to remedy both the material and the psychosocial conditions faced by families in poverty. Building integrated platforms of service delivery that target poverty reduction and health and human capital promotion is not a small task. That said, such integrated models of family behavioral change and material support may yield benefits in unanticipated ways.

In sum, the prospects and problems for children in poverty are daunting. There is now an opportunity to deploy the tremendous empirical and policy tools at our disposal to make major improvements in the lives of poor children in the next decade. We can use these tools to accurately identify points of inflection in the life course and economic trajectories of families and children. It is our task as scientists and citizens to maximize the ways that children's and families' economic and developmental trajectories can be set on a positive course, in the years ahead. ■

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Figure 1.
Child Poverty Rates in the United States by Race and Ethnicity, 1960–2009 (Shanks & Danziger, 2010) (Reproduced with permission)

Table 1.

Annual Expenditures and Caseloads in Social Insurance and Means-tested Programs, FY 2007 (Ben-Shalom, Moffitt & Scholz, 2011) (Reproduced by permission)

Programs	Type of Transfer	Demographic Groups Covered	Expenditures (constant 2007 dollars, millions) ¹	Caseloads (thousands) ²	Monthly Expenditures per Recipient ³
MEANS TESTED PROGRAMS					
Medicaid	In-Kind	Families with dependent children, disabled, elderly	328,875	56,821	482
SSI	Cash	Aged, blind, and disabled individuals and families	41,205	7,360	467
AFDC/TANF	Cash	Mostly single mother families	11,624	4,138	234
ETC	Cash	Individuals with positive earnings	48,540	24,584	165
SNAP	In-Kind	All individual and families	30,373	26,316	96
Housing Aid	In-Kind	All individuals and families	39,436	5,087	646
School Food Program	In-Kind	Children in School	10,916	40,720	22
WIC	In-Kind	Mother, infants, and children at nutritional risk	5,409	8,285	54
Head Start	In-Kind	All children	6,889	908	632
SOCIAL INSURANCE PROGRAMS					
OASI	Cash	Elderly, 62 and over	485,881	40,945	989
Medicare	In-Kind	Elderly, 65 and over and some SSDI recipients	432,169	44,010	989
UI	Cash	Unemployed individuals with sufficient earnings and employment histories	32,454	7,642	354
WC	Cash	Disabled individuals with qualifying work histories	55,217	NA ⁴	NA ⁴
DI	Cash	Disabled individuals with qualifying work histories	99,086	8,920	926

¹ Expenditures include benefits and some non-benefit costs from Medicaid, AFDC/TANF, Housing, School Food Programs, WIC, Head Start, Medicare, and UI. For all other programs, expenditures are for benefits only

² Caseload is unduplicated number of individual recipients, apart from the following programs:

AFDC/TANF: Average monthly number of recipients

ETC: Total number of recipient families

SNAP: Average monthly number of recipients

Housing Aid: Total number of households receiving direct housing assistance (unduplicated for renters receiving more than one subsidy).

School Food Programs: Average month number of breakfast & lunch recipients, based on 9-month average (includes duplicates & full-price meals).

³ Expenditures divided by 12 divided by caseloads

Sources: available upon request from the authors

⁴NA=not available

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Table 2.

Pre- and Post-Transfers Income Distributions (excluding Medicare, Medicaid), 1984, 1993, and 2004 (Ben-Shalom, Moffitt & Scholz, 2011) (Reproduced by permission)

YEAR	PRE-TRANSFER				POST-TRANSFER			
	Percent Poor (below the Poverty Line)	Poverty Gap (\$ Million)	Percent of Families under 50% of the Poverty Line	Percent of Families under 150% of the Poverty Line	Percent Poor (below the Poverty Line)	Poverty Gap (\$ Million)	Percent of Families under 50% of the Poverty Line	Percent of Families under 150% of the Poverty Line
2004	29.0	28,334	21.3	39.6	13.5	9,690	6.6	25.3
1993	30.3	25,303	20.8	43.7	13.1	6,530	4.5	29.4
1984	32.1	21,339	20.4	49.7	15.3	6,105	4.5	36.3

Source: Authors' calculations from the 1984, 1993, and 2004 SIPP (waves 1). Dollar amounts are in 2007 dollars, using the CPI-U.