

# The Contribution of Parenting to Ethnic and Racial Gaps in School Readiness

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*Jeanne Brooks-Gunn and Lisa B. Markman*

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## Summary

The authors describe various parenting behaviors, such as nurturance, discipline, teaching, and language use, and explain how researchers measure them. They note racial and ethnic variations in several behaviors. Most striking are differences in language use. Black and Hispanic mothers talk less with their young children than do white mothers and are less likely to read to them daily. They also note some differences in harshness.

When researchers measuring school readiness gaps control for parenting differences, the racial and ethnic gaps narrow by 25–50 percent. And it is possible to alter parenting behavior to improve readiness. The authors examine programs that serve poor families—and thus disproportionately serve minority families—and find that home- and center-based programs with a parenting component improve parental nurturance and discipline. Programs that target families with children with behavior problems improve parents' skills in dealing with such children. And certain family literacy programs improve parents' skills in talking with their children. Several interventions have significantly reduced gaps in the parenting behavior of black and white mothers.

Not all improvements in parenting translate to improved school readiness. Home-based programs affect the mother but do not appear to affect the child, at least in the short term. But center-based programs with a parenting component enhance both parenting and school readiness. And some family literacy programs also improve readiness.

Because these successful interventions serve a greater share of minority than nonminority families and have more positive effects for blacks than for whites, they offer promise for closing the ethnic and racial gaps in school readiness.

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Jeanne Brooks-Gunn is Virginia and Leonard Marx Professor of Child Development and Education at Teachers College and the College of Physicians and Surgeons, Columbia University. Lisa B. Markman is associate director of the Education Research Section, Woodrow Wilson School of Public and International Affairs, Princeton University. They thank Eleanor Maccoby, the NICHD Research Network on Child and Family Wellbeing, and graduate fellows at the National Center for Children and Families at Teachers College, Columbia University.

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Everyone knows” that parenting powerfully influences a child’s well-being. And volumes of research confirm that intuitive link.<sup>1</sup> Could parenting behavior also play a role in the ethnic and racial gaps in school readiness found by social scientists? Just as there are stark differences in the economic, educational, and demographic conditions in the homes of white children and of black and Hispanic children, as other articles in this issue report, there may also be racial and ethnic variation in parenting behaviors. If so, such differences may contribute to the gaps in achievement and readiness that show up when children reach elementary school. To explore these possibilities, we first describe parenting behaviors, as well as the ways in which researchers often assess parenting. Then, we ask to what extent parents matter. That question may come as a surprise, because parenting is so universally regarded as important. But social scientists have raised questions about the extent to which parents matter (does their behavior matter at all, and if so does it matter a little or a lot?), and we pursue them here.

Next we turn our attention to possible racial and ethnic differences in parenting behavior. When we find ethnic or racial differences in parenting—and we do—we provide examples of how specific parenting behavior translates into specific child behavior. We also consider the issue of equivalence in parenting measures across racial and ethnic groups. Then we investigate possible programmatic approaches to altering parenting behavior and ask how effective parenting programs are. Finally, we explore both how much parenting programs can enhance the school readiness of minority children and how much they can close the ethnic and racial gaps in school readiness.

## What Is Parenting?

Parenting encompasses the literally hundreds of activities that parents engage in either with or for their children. Often, researchers divide parenting into categories of behavior. In this article we use seven: nurturance, discipline, teaching, language, monitoring, management, and materials.<sup>2</sup>

### Nurturance

Nurturing behavior involves ways of expressing love, affection, and care. High nurturing behaviors include expressing warmth, being responsive to a child’s needs, and being sensitive to changes in a child’s behavior. Low nurturing behaviors include detachment, intrusiveness, and negative regard.<sup>3</sup>

Researchers measure nurturance by observing a parent interacting with her child (parents are not particularly good or accurate reporters of their own warmth, detachment, or intrusiveness). They observe naturally occurring interactions during a two- or three-hour home visit or during structured tasks that can be set up at home, at a preschool center, or at a pediatric clinic. For home visits, the Home Observation for the Measurement of the Environment (HOME) Inventory, for example, asks the observer to record whether she saw certain behaviors, such as a parent spontaneously praising a child’s qualities twice; caressing, kissing, or cuddling a child; or using a term of endearment.<sup>4</sup> The structured tasks range from free play with a specific set of toys to problem solving with unique materials (for example, getting a toy from a box using a rake or another utensil) to copying a puzzle or design. Often, researchers videotape the interactions so that they can code them later. Sometimes they code very detailed behaviors (marking the presence or absence of up to fifteen parent and child behaviors every five to ten seconds); other systems involve more

global coding of a number of constructs, such as sensitivity to a child's cues, expressed warmth, intrusiveness, and detachment. Training of coders is intensive (often for as long as six weeks) to ensure their reliability.

In semistructured videotaped free play sessions, the observer gives parents and young children toys to play with, leaving instructions deliberately vague. In several studies, she places three toys in separate bags, so that the mother uses one toy at a time, and observes the parent and child for ten to fifteen minutes.<sup>5</sup> The observer rates the session after repeatedly viewing videotapes of behaviors, including detachment (low involvement with and lack of attention to the child), intrusiveness (over-control and over-involvement in the child's play), negative regard (anger, rejection), sensitivity (extent to which the parent perceives the child's signals and responds appropriately), and positive regard (demonstration of love, respect, and admiration).<sup>6</sup>

Sometimes, these behaviors are treated separately, because they measure different aspects of nurturance. At other times, they are clustered together to identify different groups of parents. For example, we have identified several groups of parents—we term them sensitive, directive, uninvolved, and harsh—based on the coding of behaviors in the three-bag free play.<sup>7</sup>

### **Discipline**

Discipline involves parents' responses to child behaviors that they consider appropriate or inappropriate, depending on the child's age and gender and on parental beliefs, upbringing, and culture.<sup>8</sup> Observers sometimes measure discipline from what they see during the course of a home visit. They would describe discipline as harsh or punitive if the parent spanked, slapped, or yelled at the

child during the visit.<sup>9</sup> Because parents may be less likely to spank a child with an observer in the home, observers often ask parents about frequency of spanking. They also ask about their use of other discipline strategies, such as time out, explanations, and taking away toys or food. In a few studies, they give parents a scenario. For example, they ask what a mother would do if her child had a temper tantrum in the market; or, if her child had had a tantrum, what she did in response. Sometimes they calculate a severity-of-punishment score or a use-of-reason score.<sup>10</sup>

### **Teaching**

Teaching typically includes didactic strategies for conveying information or skills to the child. Observers set up interaction situations such as putting together a puzzle that is slightly difficult for the child; drawing a complex figure; learning a skill such as tying a shoe or buttoning a coat; or sorting building blocks by shape or color, and then observe teaching behaviors. Often, they rate the strategies in terms of quality of assistance. For example, when helping her child with a puzzle, a mother might do any of the following: take over and put most of the pieces in the puzzle; wait until the child runs into difficulty and then take over; not assist the child at all; provide cues or prompts ("What would happen if you turned that puzzle piece around?") to help the child find the right place for a piece; provide an overall strategy ("Can you find all the pieces that go on the edges of the puzzle?"). Observers would code the latter two examples as high in quality of assistance.<sup>11</sup>

The HOME Inventory includes items related to teaching—does the parent encourage the child to learn colors, songs, or numbers or to read a few words—that can be used to create a scale called Provision of Learning or Learning

Stimulation.<sup>12</sup> These reports are based on parental report, rather than direct observation.

### Language

Researchers have extensively studied language use between parents and young children. The most comprehensive studies have transcribed hundreds of hours of mother-child conversations.<sup>13</sup> From those transcriptions, observers can code the sheer amount of language heard by and directed to the child, as well as the number of different

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words, length of sentences, questions asked, elaborations on the child's speech, and events discussed. Observers also frequently elicit parent language by having parents read to their children.<sup>14</sup> Parents vary in how often they ask the child questions, expand on what is in the story, and see whether the child understands the meaning of a word.<sup>15</sup> They also vary in how much they engage in what Katherine Snow has called nonimmediate talk, or going beyond the information given in the story, and in their style of reading.<sup>16</sup>

The HOME Inventory includes several items indicative of reading: child has access to at least ten children's books; at least ten books are visible in the home; family buys and reads a daily newspaper; child has three or more

books of his or her own.<sup>17</sup> These items are tapping something different from frequency of book reading or style of reading as measured through direct observation. The underlying premise is that children who are exposed to more reading materials live in households where reading, both adult reading and parent-child shared reading, is more common.

### Materials

The term *materials* refers to the cognitively and linguistically stimulating materials provided to the child in the home. This category can overlap with language and with teaching. For example, some scholars categorize number of books in the home, number of children's books, and number of magazine subscriptions as materials rather than as language because they do not know whether parents use them to foster reading. Other items included here are toys and books for learning the alphabet and numbers, educational toys, musical instruments, push-pull toys, drawing materials, and the like. The extensiveness of material items in the home is associated with family income, which is not surprising, given that most are purchased.<sup>18</sup>

### Monitoring

Monitoring is what might be called "keeping track." With young children, monitoring refers to parental watchfulness. For example, if a child is playing in a room alone, a parent might periodically check to see what she is doing or call out to her; if a child is watching television alone, a parent might keep track of what program he is watching and change the channel if it seems inappropriate. Studies using time-use diaries of children's days try to distinguish between time when the parent is directly interacting with the child and time when the parent is in the home and responsible for the child even though the two are

doing different things.<sup>19</sup> Occasionally the distinction is difficult to make, such as when a child is watching television and the mother is in the room, sometimes watching and talking about a program with the child and sometimes doing housework. With older children, monitoring involves knowing what the child is doing and with whom he is doing it when he is outside the home.

### **Management**

Management encompasses scheduling events, completing scheduled events, and the rhythm of the household. Most studies of young children either do not measure management at all or assess it with only one or two short questions, even though management tasks consume huge amounts of parenting time. Most national studies do ask about two health-related areas: getting the recommended number of well-child visits and getting immunizations on time. Sometimes studies note the appearance of the child (dirty, not dressed, clothes do not fit) as a possible indicator of child neglect. Studies do not always assess taking children to scheduled activities outside the home (even though time diary studies suggest that fathers spend the greatest proportion of their weekend time with their preschoolers in such activities), but often do assess taking children to the park and to visit relatives.<sup>20</sup>

Researchers sometimes tap the rhythm of the household, typically through questions about the regularity of bedtime, bedtime routines (reading, singing, praying), how many meals the family eats together, the breakfast routine (whether breakfast is eaten at all, whether the television is on).<sup>21</sup>

### **Does Parenting Matter?**

Despite all the studies reporting links between parenting and child well-being, we still

need to question whether parenting matters.<sup>22</sup> Our premise is as follows. Even though the literature is voluminous, it also has its limits, all of which comes down to the same problem: we do not know, in most cases, whether the so-called effects of parenting are caused by parental behavior or by something else that may complicate the causal link. We consider four different factors: family social, educational, and economic conditions; genetic similarities between parent and child; child characteristics; and other unmeasured characteristics (which we believe might be operating but have not measured, or do not know how to measure well). Although all four factors influence links between parenting and child well-being, they do not account completely for these links. (Another line of evidence supporting the premise that parents matter, reviewed later in this article, has to do with the potential of intervention programs to alter parenting.)

### **Parenting and Correlated Family Conditions**

First, we know that parents differ in their social, economic, and educational backgrounds. And we know that variations in parenting are associated with such characteristics. The link between parental talking and child vocabulary is one example.<sup>23</sup> Parents who talk a lot to their children, ask questions, use many different words, and discuss events are also more likely to be highly educated, to have high incomes, and to have few children, as well as to have children with large vocabularies. And these latter characteristics are themselves associated with child vocabulary. Thus in reality parental education might account for the link between parental talking and child language. If parents who talk a lot are more likely to be highly educated, we need to adjust for parental education to be sure the link between parental language use and child

vocabulary is not inflated. It is relatively easy to measure parental education and make statistical adjustments to see if the link between parental talking and child vocabulary still exists, just as it is for other characteristics like family structure, income, parity (number of children), age, and the like. Studies that make such adjustments find that the link exists independent of parental education.

At the same time, the purpose of such studies is often to show how parental education, for example, influences children's language. Clearly, in that case, the parental education effect would have to translate into a specific parenting behavior, such as talking to the child. So we often consider parenting (in this case parental talking) to be a pathway through which parental education influences child language. That suggests two types of intervention strategies. One is indirect: to try to increase maternal education in the hope that more schooling would cause a mother to talk more to her child. The other is direct: to try to increase her talking with the child. The latter would target behavior directed toward the child (talking), rather than a more general characteristic of the adult (more education). The assumption is that it is possible to pinpoint the specific parenting behaviors that contribute to a specific child outcome. High levels of parental warmth, in the absence of much parental talking, for example, would not be expected to increase child vocabulary. Neither would parental monitoring, unless it involved lots of talking.

### **Parenting and Correlated Genetic Characteristics**

Second, perhaps the most widely heralded causal issue is that parents and children are genetically related, which can, in part, account for links between parenting and child well-being. To continue with our earlier ex-

ample, parents who talk a lot and have a large vocabulary are likely to have children who are predisposed toward language. That is, language facility is partly heritable.<sup>24</sup> Even in the absence of parenting behavior, parent language test scores would be linked with child language scores.<sup>25</sup> How can we tell to what extent the link is due to environment (here, language expressed to the child) and to what extent to genetics (here, the biological relationship between parent and child)? Studies informed by behavioral genetics are useful here.<sup>26</sup> Two examples, one from studies of adopted children and the other from work with identical twins (monozygotic twins, whose genetic material is identical, so that any differences between them must be environmental), demonstrate that parenting influences child well-being, over and above genetic relatedness of parents and children.

Studies of adopted children show striking increases in cognitive abilities when the children leave institutional care to be placed with adoptive parents.<sup>27</sup> Children in such studies, however, move from extremely deprived environments without consistent caregivers (orphanages) to stable, two-parent, largely middle-class homes. The studies speak to the powerful effect of having parents versus not having parents, but say little about the effects of varying levels of parenting behavior.

One study does address normal variation in parenting. Michel Duyme and colleagues identified a small sample of adopted children (fewer than seventy) from a review of more than 5,000 adoption cases in France.<sup>28</sup> They selected all children between the ages of four and six who had been placed in prescreened adoptive homes, removed from their birth parents because of abuse or neglect, and put in foster care before their adoption. The children were given cognitive tests before their

adoption and again between the ages of eleven and eighteen. Overall, the children showed striking gains in IQ test scores from early childhood to adolescence, from a mean score of 77 to 91 (14 points or almost one standard deviation on a test with a mean of 100 and a standard deviation of 15). The authors classified the adoptive households as low, middle, or high socioeconomic status (SES), based on paternal occupation. The gains were largest for those placed in high SES families (19 points) and smallest for those in the low SES families (8 points).<sup>29</sup> The assumption is that the high SES families were providing more language, more teaching, and more materials, all of which facilitated the children's cognitive growth.

A study of children exposed to cocaine prenatally also illustrates the power of change in parenting.<sup>30</sup> The study recruited more than 400 mothers following delivery. All the new mothers were considered at high risk for cocaine use; about half had biological indications of cocaine use when they and their infants were tested at delivery. When the children were four years old, researchers gave them an IQ test, observed them in their homes, and gave their caregivers a vocabulary test. In the group of children who had been exposed to cocaine before birth, only 55 percent were living with their biological mothers at the follow-up, as against 95 percent of those in the group that had not been exposed. The cocaine-exposed preschoolers living with their mothers or with a relative had significantly lower IQ scores than their counterparts who were living with an adoptive or foster care mother—even though (not surprisingly) the latter group had been exposed to more cocaine than those who were not removed from the mother. Furthermore, the IQ scores of the exposed children living with an adoptive or foster mother were com-

parable to those of the children who were not exposed to cocaine prenatally. For example, the share of the cocaine-exposed children living with their mothers who had IQ scores under 70 (the mild mental retardation range) was 25 percent, as against 10 percent for the exposed children who lived with nonrelatives and 16 percent for the nonexposed children. As might be expected, the homes of the groups differed; cocaine-exposed children living with adoptive or foster mothers had more stimulating environments, and their mothers had higher vocabulary scores, than the cocaine-exposed children living with their biological mothers or relatives.<sup>31</sup>

The second class of studies does not rely on change in parents (from orphanage to family or from biological to adoptive parent). Instead, it uses genetic similarity to delve into parental effects. In a sample of 500 five-year-old identical twins, mothers were asked to talk about each of their children. Mothers tended to describe one twin in more negative terms than the other. When the children were in elementary school, their teachers were asked to rate their behavior.<sup>32</sup> Teachers reported that the twin for whom the mother had more negative feelings had more behavior problems than the other twin.<sup>33</sup> Because the children had identical genetic endowments, it is highly likely that maternal behavior accounted for the differences in behavior problems between the twins.

### **Parenting and Correlated Child Characteristics**

A third causal issue is that parenting behavior may be in part contingent on the behavior of the child. That is, not only does parenting affect child behavior, but also children can influence parents.<sup>34</sup> We provide two examples, the first having to do with reading, the second with behavior problems.

Children of mothers who read to them frequently have large vocabularies, as countless studies have shown.<sup>35</sup> In an evaluation of the Early Head Start Program, Helen Raikes and her colleagues have found the expected links between shared book reading and child vocabulary in more than 1,000 children seen at age fourteen months, twenty-four months, and thirty-six months, even after adjusting for differences in mothers' verbal abilities.<sup>36</sup> (The adjustment is necessary because moth-

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ers with higher verbal abilities are likely to enjoy reading more than other mothers, which could influence their shared book reading with the child, and because language ability is partly heritable.) Of more interest is their exploration of the pathways through which language at age thirty-six months was influenced. More shared reading at fourteen months was linked with higher vocabulary scores at twenty-four months, which affected the amount of reading at twenty-four and thirty-six months. Thus, mothers whose children knew and used more words were reading more to these children as they developed, over and above their reading levels at fourteen months.

One of the best-known examples of child-to-parent effects is an intervention geared to-

ward children with conduct disorders and their parents.<sup>37</sup> Half the children participated in a family program, which was effective in that the children displayed less aggression after the intervention. But the positive impact on the children was primarily due to changes in parenting behavior. That is, the parents in the intervention group stopped reacting negatively to their children's aggressive behavior by learning other techniques for dealing with outbursts. In contrast, the parents in the control group did not alter their responses to their children's outbursts, and therefore the children's problem behavior showed no change.

The point here is that child characteristics can influence parenting. But the existence of differences among children themselves does not totally account for parenting effects on children.

#### Parenting and Unmeasured Correlates

The final complicating causal issue involves possible correlates of parenting that have not been measured. Even studies that adjust for family conditions and child characteristics may fail to measure other sources of variation in parenting and children's school readiness, perhaps because of limits of cost or time or the lack of a reliable indicator.

One characteristic often associated with parenting and child outcomes is parents' mental health. Mothers who are diagnosed with clinical depression or as having high levels of depressive symptoms engage in less nurturance and more punitive discipline, as has been demonstrated countless times for preschoolers as well as older children.<sup>38</sup> And these mothers' preschool children have more behavioral problems and (sometimes but not always) lower cognitive test scores.<sup>39</sup> But even when analysts adjust for maternal depression, parenting still

contributes to these indicators of child well-being. Indeed, maternal depression, as well as other measures of mental health (anxiety, irritability), is thought to act on children through its effect on parenting behavior.<sup>40</sup> Vonnie McLoyd, Rand Conger, and their colleagues have proposed a family stress model that traces the pathways from low income, financial instability, and material stress through parental mental health to parenting to child outcomes.<sup>41</sup> Jean Yeung and her colleagues have shown that this pathway is stronger for behavioral problems than for cognitive and language test scores in young children.<sup>42</sup>

Even if a study measures many potential correlates, it is impossible to be sure that it includes all that are relevant. So scholars use a variety of statistical techniques to minimize the likelihood that results are due to something besides parenting.<sup>43</sup> But the most convincing evidence is gleaned from experiments where families enter a treatment or a control group through random assignment. We present evidence from experiments designed to test the efficacy of parenting programs later in the article.

### **Do Ethnic and Racial Differences in Parenting Exist?**

In this section we first ask whether measures of parenting are equivalent across ethnic and racial gaps. Next we consider whether there are ethnic and racial differences in the seven dimensions of parenting described earlier. And, finding some, we compare their size with that of the ethnic and racial gaps in school readiness. For several domains of parenting, we find the sizes are similar. Using evidence of congruence in the strength and direction of links between parenting and school readiness for black, white, and Hispanic children, we ask whether the meaning of parenting behavior varies from one ethnic

or racial group to another. Although the dimensions of parenting seem to be equivalent across groups, the levels of particular behaviors do, in some instances, vary. At the same time, there are more similarities than differences in links between children's school readiness and parenting across racial and ethnic groups; when differences appear, they seem to be clustered in negative parenting behaviors.

### **Equivalence of Parenting Measures across Ethnic and Racial Groups**

Any discussion of parenting gives rise to arguments about whether parenting behaviors are the same from one group to another and whether measures of parenting have the same meaning from one group to another. Three considerations are relevant: first, whether parenting behaviors are universal or specific to time and place; second, how representative the parenting behaviors typically measured and developed using middle-class white samples are of other groups; and third, whether a particular society "privileges" certain parenting behaviors.

Regarding the first point, many aspects of parenting described in this article are exhibited by parents in many societies.<sup>44</sup> That is, all parents have ways of nurturing, teaching, disciplining, monitoring, and managing their young children. All provide a linguistic environment as well as a material environment. But the expression of these parenting activities sometimes differs, and the emphasis among behaviors sometimes varies. In eastern Africa, for example, parents devote much time to working with and encouraging their toddlers to develop their motor skills. Not surprisingly, their children's motor skills are more advanced than those of U.S. children.<sup>45</sup> Parents in Western societies often value language and vocabulary skills (given their links to doing well in school),

so the language output of Western children is often greater than that of children in other societies.<sup>46</sup> The point, however, is that parents across societies engage in teaching activities (as in the case of motor skills) and language activities (as in the case of vocabulary). The difference is in the level of a particular behavior, not its existence.<sup>47</sup>

On the second point, the parenting behaviors measured in most studies are said to be representative of middle-class families in the United States.<sup>48</sup> We agree with this proposition, given the samples from which most parenting measures were derived. Consequently, some parenting behaviors are probably not measured, or not measured well. And these may be behaviors that are more prevalent in black and Hispanic groups than in white groups. For example, some groups, such as recent Hispanic immigrants, may value compliance of toddlers more than do other groups.<sup>49</sup> Are we measuring compliance, and the parental behaviors that foster it, accurately?

Another example of imperfect measurement of parenting surfaced from our research group's work with a widely used coding scheme developed by Diana Baumrind, which distinguishes between authoritative parenting (warm, firm control) and authoritarian parenting (negative, harsh control).<sup>50</sup> Studies have found that black mothers are more authoritarian and less authoritative than white mothers, just as lower SES mothers are more authoritarian than higher SES mothers.<sup>51</sup> However, black graduate students in our laboratory felt that these codes did not represent what they had seen in black families. So we did an exploratory analysis using a sample of about 700 black and white mothers of toddlers, attempting to identify clusters of mothers based on our videotaped ratings on both domains. We identified not two but four

groups of mothers—those who were high in warm, firm control and low in negative, harsh control (the classic authoritative behavior); those who were high in negative, harsh control and low in warm, firm control (the classic authoritarian behavior); those who were relatively high in both (what we termed “tough love”); and those who were low in both (what we termed “detached”). More blacks than whites were in the tough love group. The classic authoritarian group was composed primarily of teenage mothers, both black and white, while the tough love group comprised mostly older black mothers with at least a high school education. Interestingly, children of mothers in the tough love group had higher IQ and vocabulary scores than children in the classic authoritarian or the detached group, suggesting that previous coding schemes had confounded two groups of black mothers by labeling them authoritarian—and assuming that their parenting had negative consequences for school readiness.<sup>52</sup> A further example of how difficult it can be to measure parenting relates to findings that spanking has less negative consequences for black than white children.<sup>53</sup> Spanking may be more normative for the black children, and it may occur in the context of warm parenting—that is, tough love.

As to the third point, perhaps the best evidence of the validity of a particular parenting behavior is how well it predicts school readiness. And given our focus on racial and ethnic differences, whether parenting predicts school readiness equally well in different groups is critical. In general, the parenting behaviors described in this article are related to school readiness in U.S. society at this time. They do not necessarily represent all parenting behaviors, or particular behaviors valued by certain groups, or behaviors that promote outcomes other than school readiness. In this

sense, we are privileging more Western, middle-class parenting behaviors. If we are correct that these are the behaviors that contribute to school readiness, and if these are the behaviors that parenting interventions target because of their links to school readiness, then this privileging seems appropriate. It does not mean that these parenting behaviors are “good” while others are not.

### Ethnic and Racial Differences in Parenting

There are ethnic and racial differences in parenting during early childhood. Evidence is available on five of the seven parenting dimensions: nurturance, discipline, teaching, language, and materials. In all cases, when differences occur, black mothers have lower scores on parenting measures than do white mothers. Similar differences often exist between Hispanic and white mothers as well, although the research base for this comparison is much smaller. In general, the effect sizes for the ethnic and racial differences range from one-fifth to three-fifths of a standard deviation—similar to but slightly smaller than school readiness measures, which are roughly two-fifths to four-fifths of a standard deviation.<sup>54</sup> These parenting differences would translate into 3 to 9 points on a test that had a mean of 100 and a standard deviation of 15 (as many tests of vocabulary and intelligence have). All references to test points in the rest of the article refer to a test with such characteristics. School readiness measures on such a test show racial gaps of 6 to 12 points, depending on the aspect of readiness being measured.

Evidence for racial and ethnic gaps in nurturance comes from several sources. On the first, the observational HOME Warmth Scale, black mothers sometimes have lower scores, although the differences are modest:

one-fifth of a standard deviation or less, or 3 points or less, using our reference test.<sup>55</sup> Hispanic mothers have scores comparable to whites in most cases.<sup>56</sup>

Another positive indicator of nurturance is the sensitivity of the mother, as expressed in mother-child free play or problem-solving situations. Black mothers are rated as having

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somewhat lower levels of sensitivity—about one-fifth of a standard deviation—as coded from fifteen-minute videotaped sessions.<sup>57</sup>

Measures on the more negative end of the nurturance continuum are also gleaned from mother-child interchanges recorded on the videotapes, which have documented racial differences in negative regard, intrusiveness, and detachment, with black mothers scoring slightly higher than white mothers. The black-white differences are around one-fifth to two-fifths of a standard deviation (3 to 6 points).<sup>58</sup>

Discipline also varies by racial and ethnic group. Black mothers are somewhat more likely to spank their children than are white mothers.<sup>59</sup> White mothers are more likely to use reasoning as a discipline technique, though the effects are modest, about one-fifth or less of a standard deviation (1 to 3 points).<sup>60</sup>

Perhaps the most striking differences are for language.<sup>61</sup> Transcriptions of naturally occur-

ring mother-child conversations suggest that children's exposure to language and conversation varies widely across social class groups, as demonstrated in a sample of forty-two children from three different social class groupings.<sup>62</sup> As such differences accumulate over the first years of life, the children in families with a high socioeconomic background have engaged in literally thousands more conversations than children from lower socioeconomic backgrounds. Even when they begin speaking (around their first birthday), higher SES children have larger vocabularies than the children from middle and low SES families. By their second birthday, the children in the middle SES group have pulled away from those in the low SES group. And these differences *accelerate* over time. So by age three, vocabularies of the children in the low SES group are half the size of those in the high SES group and two-thirds the size of those in the middle SES group. Given the racial composition of the SES groups in this study (the majority of black families were in the low SES group), black-white differences were equally large.

Scholars have posited differences in family "speech cultures," which are associated, in part, with social class and race.<sup>63</sup> The educated middle- to upper-middle-class "speech culture" provides more language, more varied language, more language topics, more questions, and more conversation, all of which are linked with large vocabularies in toddlers and preschoolers. Repeated and varied, these parental speech patterns predict how fast young children learn words.<sup>64</sup> Little research has focused on whether the variations, if controlled, would reduce the racial or ethnic gap in school readiness.<sup>65</sup>

Analysts have also examined shared book reading as a vehicle for language input.<sup>66</sup>

Large national or multisite studies often ask about the frequency of reading.<sup>67</sup> From 40 to 55 percent of mothers report reading to their toddler every day.<sup>68</sup> Black mothers are about two-thirds as likely as white mothers to do so; Hispanic mothers, about half as likely.<sup>69</sup> Ethnic and racial differences in frequency of reading exist in population-based as well as low-income samples. Black and Hispanic children also come from homes with fewer reading materials (books, children's books, magazines, newspapers) than do white children.<sup>70</sup> The size of such differences is between one-fifth and three-fifths of a standard deviation.

Materials in the home also vary by ethnicity and racial group. Not only do black and Hispanic families have fewer reading materials in their homes, but typically they also have fewer educationally relevant materials of other types (as indexed by the HOME Learning Scale). Racial differences on the Learning Scale are large, from two-fifths to three-fifths of a standard deviation, or 6 to 9 points on our reference test.<sup>71</sup>

### Reduction in Racial Gaps in School Readiness as a Function of Parenting

The racial differences in parenting do account for a portion of the racial gap in school readiness. In general, researchers who have conducted such analyses report that a 12 to 15 point gap between black and white children is reduced by 3 to 9 points when parenting is considered.

Most national studies that follow a group of the same children over time use the Learning Scale as a measure of parenting.<sup>72</sup> This particular measure of parenting is often posited to be one of the pathways through which parental income, education, marital status, and age affect children (just as language input and

shared book reading are pathways through which family social class influences school readiness). Taking this measure into account narrows the racial gap in such early childhood outcomes by one-third to one-half.<sup>73</sup>

## **Do Parenting Interventions Work?**

Is it possible to enhance parenting through intervention programs? And if so, do some of the beneficial effects on children of early childhood intervention programs operate through their effects on parenting? We consider evidence for each question. In general, programs focused on parenting can alter behavior, as has been demonstrated in several well-designed evaluations of experimental programs (those in which families are randomly assigned to treatment and control groups). And some—but not all—of the benefits that accrue to children seem to operate through changes in parenting behavior.

### **Effects of Parenting Interventions**

Interventions for parents of young children fall into four categories: home-based (often termed home-visiting) programs, center-based early childhood education programs with a parenting component (often termed center plus programs), family literacy programs, and programs targeting child behavior problems by changing parental behavior (the latter are reviewed in a separate section).<sup>74</sup> We focus on programs initiated in the first four years of a child's life.<sup>75</sup>

**HOME-VISITING AND CENTER PLUS.** Almost all parenting programs target families in which parents are poor, have little education, are young, or are unwed. The programs are not universal. Some have operated in multiple sites (which assures that they can be transferred to other settings and that staff can be trained to deliver services and curriculum). Overall, programs have served more

black and urban families than white, Hispanic, or rural families, so we have more evidence of program efficacy for the former than the latter.

Program evaluations have focused mostly on nurturance, discipline, language, and materials. They have gathered little information about teaching and virtually none about monitoring and management (with the exception of health practices, which are not reviewed here).<sup>76</sup> Several programs also target parental mental health.<sup>77</sup> Fewer programs have effects on maternal depression than on nurturance, language, and materials, suggesting that it might be easier to alter parenting behavior than parental emotional state, at least using parenting interventions, rather than more focused treatment of depressive symptoms.<sup>78</sup>

Nurturance has received much attention, because one of the goals of many home- and center-based programs with a parenting component is to enhance sensitivity and reduce negativity (the same is not true of family literacy programs). Home-visiting programs are more likely to affect nurturance than other parenting behaviors. For example, eleven of thirteen home-visiting evaluations that reportedly observed mother-child interactions found positive benefits.<sup>79</sup> (One meta-analysis suggests that home-visiting programs are better at reducing parental insensitivity than at changing other aspects of the mother-child attachment relationship.)<sup>80</sup> Center-based programs with a parenting component, including Early Head Start, also report enhancing sensitivity and reducing negativity.<sup>81</sup>

Discipline has not been measured as frequently. When it has, both home-based and center-based programs with a parenting component have shown decreases in spanking and, in several cases, an increase in the use of

reasoning.<sup>82</sup> Again, this aspect of parenting is not the focus of family literacy programs.

Teaching is often a part of intervention programs. One curriculum, LearningGames, has been used in the Infant Health and Development Program, the Abecedarian Program, and Project Care.<sup>83</sup> The object is to present age-appropriate activities for the child and the parent to do together, and to provide the parent role modeling and instruction in how

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*Language is most likely to be changed by family literacy programs that focus directly on shared book reading and other language settings.*

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to approach them. Center-based programs with a parenting component have reported improving parents' ability to assist in problem-solving activities.<sup>84</sup> Much less is known about home-visiting programs in this regard.

Home-based and center-based programs do not often target maternal language, at least not directly. We know almost nothing about whether they increase maternal language output. Because one determinant of a child's increased vocabulary is the mother's vocabulary, such a goal might be sensible.

A few literacy programs have tried to change how parents read with their children, with an implied goal of using more, and more varied language. Grover Whitehurst and his colleagues developed a program of dialogic reading that trained mothers and teachers to read with an emphasis on asking children questions, providing feedback to their re-

sponses, initiating conversations that went beyond the book's content, and delving into children's understanding of concepts.<sup>85</sup> The adult training was successful, and children in the treatment group had higher language scores than those in the control group. Several programs with a focus on literacy are now being evaluated.<sup>86</sup>

Many home-based and center-based programs have used the HOME Learning Scale to assess the parenting dimension that we call materials. About half of the center-based programs with a parenting component report higher scores on this scale after treatment; fewer home-based programs report such effects.<sup>87</sup> Even Start, a national literacy program, reported its most consistent treatment effect on reading materials in the home.<sup>88</sup>

In conclusion, home- and center-based programs with a parenting component have their largest and most consistent effects on nurturance. They have some effects on discipline and, in some instances, on materials. Little evidence exists, for or against, regarding effects on language. Indeed, language is most likely to be changed by family literacy programs that focus directly on shared book reading and other language settings.

**PARENT BEHAVIOR TRAINING PROGRAMS.** Yet another type of parenting program aims to alter the behavior of parents whose children exhibit problem behavior. Typically, children who are disruptive and aggressive and who act out in the preschool and early school years are likely to have high rates of delinquency and school drop-out during adolescence.<sup>89</sup> In the early school years, they are likely to spend little time engaging in classroom tasks and are often disliked by their peers and teachers.<sup>90</sup> To address these children's needs, researchers and clinicians have

developed several types of programs, focusing variously on parents, teachers, the child's social skills in the classroom, or individual counseling.<sup>91</sup>

One parent training program, developed by Carolyn Webster-Stratton and her colleagues, crafts group discussions around videotaped vignettes of typical discipline situations in the home, often showing several ways to handle a particular situation.<sup>92</sup> This program has been found to reduce parents' negative discipline and nurturance behaviors and increase positive parenting behaviors in mothers. Webster-Stratton's Incredible Years Curriculum is often targeted to families in Head Start. As a result, it benefits poor families. When the parent program was expanded to include a teacher component, it reduced negative behavior and increased more supportive behavior in parents, and it enabled teachers to use more positive management techniques in their Head Start classrooms. Children in the program have lower rates of acting out and aggressive behaviors and are more engaged in their classrooms than are children in a control group.<sup>93</sup> Webster-Stratton's programs have effects on children of between one-half and two-thirds of a standard deviation, or 7 to 10 points on our reference test.

A few other programs offer a range of services, beginning with low-intensity services for all parents in a classroom and moving to more intensive services for parents whose children have moderate behavior problems and even more training and counseling for families whose children have severe behavior problems.<sup>94</sup> Most of these programs, however, have focused on kindergartners and first graders.

Our point is that parent training programs for children with moderate or severe behavior

problems have been proven successful. Programs that include both parents and pre-school teachers seem to be the most successful of all.

### **Parenting Impacts and Their Effects on Children**

Do the interventions' positive effects on parenting make any difference in children's cognitive performance and school readiness? Two types of evidence are relevant, the first having to do with whether the programs have effects on the children and the second with whether any of the children's benefits are due to the effects of the programs on parenting.

The answer to the first question depends on the type of intervention. Few home-visiting programs have altered children's school readiness.<sup>95</sup> That being so, the positive parenting effects for home-based programs could not be translated into child effects. In our view, most home-visiting programs are not intensive enough, and home visitors are not trained or supervised enough, to be likely to enhance school readiness.<sup>96</sup>

In contrast, the center-based early childhood education programs with a parenting component have improved vocabulary, reading achievement, math achievement, and IQ, with some effects continuing through adolescence in some studies.<sup>97</sup> Although these programs have few effects on socioemotional development in preschool, two have lowered juvenile delinquency and teenage pregnancy rates.

Second, when programs affect both parents and children, does the enhanced parenting affect the child outcomes? This question is important, especially for center-based programs with a parenting component, because

these programs could operate through the parent or through the center services received directly by the child. In the Infant Health and Development Program, the positive effects on the HOME Inventory accounted for a portion of the IQ benefit at age three.<sup>98</sup> In the Early Head Start Program Demonstration, about two-fifths to one-half of the treatment effect on child cognitive test scores operated through the program's effect on parenting behavior.<sup>99</sup> Center-based programs with a parenting component appear effective at enhancing parenting and school readiness, with some of the effect on the latter operating through the former. These programs are, in our opinion, a good bet for increasing child well-being.

The Whitehurst literacy program noted above also had positive child effects. Other family literacy programs should similarly yield benefits, with the effects assumed to operate through parental language use. Although we have fewer data on which to base our opinion, we believe that these programs also show promise for improving parenting and school readiness. The parent behavior training programs also have shown effects on children when targeted to families whose children have been identified as having problem behavior.

### **Can Parenting Interventions Close the Ethnic and Racial Gaps in School Readiness?**

If parenting interventions are to narrow ethnic and racial school readiness gaps, they must meet one of several conditions. First, effective interventions should be offered to proportionately more minority than nonminority families. This could be achieved if such programs were offered to families with characteristics—for example, poorly educated mother, unwed mother, or mother with

poor mental health—that are more often found in minority than in white families. Second, even if programs were not provided to more minority than nonminority families, they could still reduce the racial gaps if they were more beneficial to black than white parents. Third, even if parenting programs were not more effective for black and Hispanic than white parents, they could still narrow ethnic and racial differences if they were more beneficial to mothers with certain characteristics, such as being young or poorly educated, that are more prevalent among black and Hispanic mothers than white mothers.

Evidence on the first condition is scanty; estimates of the shares of black, Hispanic, and white families receiving parenting programs do not exist. But more is known about the second and third conditions. Parenting programs sometimes do have more beneficial effects for blacks than for whites and, to a lesser extent, for younger than for older mothers. That being the case, parenting programs, if implemented, could reduce the racial gap in school readiness.

### **Who Receives Parenting Programs?**

Parenting interventions are almost always targeted to specific groups, typically parents who are poor, poorly educated, young and unwed, live in impoverished communities, or have mental health problems.<sup>100</sup> As such, they are likely to serve a greater share of minority than nonminority families—a ratio of three to one (or higher)—given the differential prevalence of such conditions.<sup>101</sup> No estimates exist of the number of families with young children served by parenting programs, but two home-visiting programs that focus on parenting—the Nurse Home Visitation Model and the Healthy Start Model—have been initiated countrywide.<sup>102</sup>

In their article in this volume, Katherine Magnuson and Jane Waldfogel note that 30 percent of all U.S. children under the age of six are in some form of center-based child care and education. Breaking that figure down, they find 30 percent of white children, 22 percent of Hispanic children, and 40 percent of black children in center-based care. Some but not all child care programs also provide parenting classes or home visiting; publicly funded programs, such as Head Start, are most likely to do so.<sup>103</sup> Proportionately more black than white children attend Head Start; if these programs are effective in altering parenting behavior, then Head Start could reduce the racial gap in school readiness. Too few studies have examined its efficacy vis-à-vis parenting outcomes to make an inference about the probability of Head Start as a path to reducing racial gaps, but the program does seem to have positive effects on children.<sup>104</sup>

### Differing Program Effects on Black and White Parents

If parenting interventions benefit black and Hispanic parents more than white parents, they could reduce gaps in school readiness. Few demonstration programs have examined this question, in large part because most parenting programs operate in one community or neighborhood, so that racial and ethnic variation in participants is quite limited. But two multisite demonstrations report larger effects on black than white mothers in some, but not all, aspects of parenting.

Through the Infant Health and Development Program (IHDP), an eight-site randomized control trial, about 1,000 families with low birth weight children born in 1985 were offered parenting-focused home-visit and center-based child care from birth through the child's third year of life. The program assessed HOME Inventory, mother-child free

play, and problem-solving videotaped interactions, maternal mental health, and spanking.<sup>105</sup> According to analyses conducted for this article, black mothers benefited more from the program than did white mothers when their children were age three (that is, at the end of the intervention). Observers noted more learning and less punitive discipline in the homes of black mothers in the intervention than those of black mothers in the con-

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*If parenting interventions benefit black and Hispanic parents more than white parents, they could reduce gaps in school readiness.*

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trol group; effect sizes were about one-fifth to one-quarter of a standard deviation, or 3 to 4 points on our reference test. We found no corresponding treatment differences for the white mothers.<sup>106</sup> In both cases, the scores of black mothers in the treatment group were higher than those of their counterparts in the control group and were comparable to those of the white mothers in both the treatment and the control groups.

Researchers report similar findings in the Early Head Start Demonstration (EHS), a randomized seventeen-site evaluation of home- and center-based early childhood intervention for pregnant women and young children, conducted from the late 1990s into 2000.<sup>107</sup> Black mothers in the intervention group had more positive and fewer negative parenting behaviors than did black mothers in the control group; the effect sizes ranged from one-fifth to one-half of a standard deviation (3 to 7.5 points on our reference test).

Researchers found these effects in eight parenting behaviors measured at the end of the intervention, when the children were three years old. Hispanic mothers also benefited from Early Head Start, although not as much as black mothers and not in as many parenting behaviors. The program had almost no effect on the white mothers. The EHS intervention raised the parenting scores of the black mothers to levels similar to those of the white mothers, mirroring the IHDP results.

### Differing Program Impacts by Maternal Age, Education, and Mental Health

Programs could also reduce the ethnic and racial gaps if they benefited mothers who were poorer, younger, or single more than other mothers, because these characteristics are more likely among black and Hispanic mothers than among white mothers. At least three lines of evidence exist, the first relating to maternal education, the second to maternal age, and the third to maternal mental health. We believe that it would be possible to reduce racial gaps in school readiness if the results described below could be replicated in large-scale programs.

First, early childhood education programs seem to have more benefits for children of mothers with a high school education (or less) than they do for children whose mothers have some postsecondary schooling.<sup>108</sup> Less information is available on whether such programs affect parenting. In the IHDP, even though children of less educated mothers benefited more, their mothers did not. The Early Head Start Demonstration had somewhat greater effects on the parenting behavior of the less educated than on that of the more educated mothers, as well as on child engagement and persistence in mother-child play sessions.<sup>109</sup> Effect sizes

range from one-fifth to one-quarter of a standard deviation (3 to 5 points on our reference test). At the same time, only EHS mothers with more than a high school education showed significant increases in reading at bedtime and reductions in spanking. These mixed findings signal caution in accepting this pathway—larger effects for less educated mothers—to reducing the racial gap in school readiness.

Second, young and first-time parents might also benefit more from parenting interventions than older, more experienced parents. And, indeed, whenever benefits of treatment differ by parental age, they favor the younger, typically teenage and unwed mother.<sup>110</sup> Results are stronger for the Nurse Home Visitation Model than for EHS.

Third, although evidence is limited, parenting interventions do appear to have greater effects for mothers with low psychological resources. Of the seventeen sites in the EHS demonstration, eight asked mothers about depressive symptoms before the intervention began; those with more symptoms were more likely than those with fewer symptoms to see symptoms reduced during the intervention.<sup>111</sup> In IHDP, by contrast, all intervention mothers experienced reduced depression symptoms.<sup>112</sup> Early Head Start had somewhat greater effects on mothers' parenting behaviors for those with initially high depressive symptoms.<sup>113</sup>

David Olds and colleagues have reported that their Nurse Home Visitation Model had more positive effects on mothers with low psychological resources (a measure comprising mental health, sense of mastery, and intelligence obtained before the intervention) than on those with high psychological resources.<sup>114</sup>

## **Conclusion**

Parenting influences young children in many different ways. The frequency of certain parenting behaviors, those often linked with school readiness, are lower for black and Hispanic mothers than for white mothers, though adjustment for differences in family conditions attenuates these differences to an extent. These racial and ethnic differences in parenting in large part parallel racial and ethnic differences in school readiness. When such parenting differences are controlled, the gaps in school readiness drop 25 percent to 50 percent.

It is possible to alter the parenting behavior of black and Hispanic mothers. In several instances, interventions have reduced the gaps in the parenting behavior of black and white mothers. In these cases, black children also benefited more than white children from the intervention. These successful programs have been high-quality and center-based with a parenting component (typically through home visiting). Exclusively home-based pro-

grams have not yielded comparable findings; they affect the mother but not the child and therefore (with a few exceptions) cannot narrow ethnic and racial gaps in school readiness. We cannot say from existing evidence whether all center-based programs should have a parenting component. There is little evidence documenting the effects of parenting components in publicly funded programs such as Head Start. In addition, because virtually all programs for children under age four involve the parent, it is not known whether a center-based program without a parenting component is as effective as one with such a component. The rise of the pre-kindergarten programs may provide some insight, because many such programs do not target the parent in any significant way. Whether such programs will show similar impacts on children without parental involvement remains to be seen. The exciting findings of the new family literacy programs and the parent behavior training programs also provide possible avenues for targeted parenting programs.

## Endnotes

1. Marc H. Bornstein, ed., *Handbook of Parenting: Children and Parenting* (Mahwah, N.J.: Lawrence Erlbaum Associates, 2002); Eleanor Maccoby and John A. Martin, "Socialization in the Context of the Family: Parent-Child Interaction," in *Handbook of Child Psychology*, vol. 4, *Socialization, Personality and Social Development*, 4th ed., edited by E. Mavis Hetherington (New York: Wiley, 1983): p. 1.
2. There are other ways of categorizing parenting behaviors. See Lisa J. Berlin, Christy Brady-Smith, and Jeanne Brooks-Gunn, "Links between Childbearing Age and Observed Maternal Behaviors with 14-Month-Olds in the Early Head Start Research and Evaluation Project," *Infant Mental Health Journal* 23, no. 1 (2002): 104–29; Bornstein, *Handbook of Parenting* (see note 1); Tama Leventhal and others, "The Homelife Interview for the Project on Human Development in Chicago Neighborhoods: Assessment of Parenting and Home Environment for 3-15 Year Olds," *Parenting: Science and Practice* 4 (2004); Maccoby and Martin, "Socialization in the Context of the Family" (see note 1); Eleanor Maccoby, "The Role of Parents in the Socialization of Children: An Historical Overview," *Developmental Psychology* 28 (1992): 1006; Lawrence Steinberg and Ann S. Morris, "Adolescent Development," *Annual Review of Psychology* 52 (2000): 83–110.
3. Low nurturance is sometimes linked more closely with aggression or low self-control than with cognitive and language skills, while the opposite is true for high nurturance behaviors. Jean Ispa and others, "Maternal Intrusiveness, Maternal Warmth, Mother-Toddler Relationship Outcomes: Variations across Low-Income Ethnic and Acculturation Groups," *Child Development* (forthcoming); Rebecca Ryan, Ann Martin and Jeanne Brooks-Gunn, "Is One Good Enough Parent Good Enough? Patterns of Father and Mother Parenting and Their Combined Associations with Concurrent Child Outcomes at 24 and 36 Months," *Parenting: Science and Practice* (forthcoming).
4. Robert Bradley and Bettye Caldwell, *Home Observation for Measurement of the Environment* (University of Arkansas, 1984); Robert Bradley, "Home Environment and Parenting," in *Handbook of Parenting*, vol. 2, *Biology and Ecology of Parenting*, edited by Marc Bornstein (Hillsdale, N.J.: Lawrence Erlbaum Associates, 1995), p. 235; Jeffrey B. Bingenheimer and others, "Measurement Equivalence for Two Dimensions of Children's Home Environment," *Journal of Family Psychology* (forthcoming); Leventhal and others, "The Homelife Interview" (see note 2); Miriam Linver, Jeanne Brooks-Gunn, and Natasha Cabrera, "The Home Observation for Measurement of the Environment (HOME) Inventory: The Derivation of Conceptually Designed Subscales," *Parenting: Science and Practice* (2004). The HOME Inventory, developed in the 1980s, originally had more than fifty exemplars (items either observed in the home or reported upon by the mother) of home conditions or parental behaviors that, if absent, might put the child at risk for less than optimal development. The items were crafted to discriminate among those homes with quite adverse circumstances; HOME does not differentiate particularly well among homes and families within the wide range of acceptable to excellent circumstances (and was not designed to do so); see Robert Bradley, "Chaos, Culture, and Covariance Structures: A Dynamic Systems View of Children's Experiences at Home," *Parenting: Science and Practice* 4 (2004). Many variants of HOME have been developed; the variants have different numbers of items; forms have been developed for different age groups (the first HOME focusing on early childhood); some forms have been adapted to be more similar across age groups than earlier forms; and some forms separate scales with only observation and only parental report items; see Linver and others, "The Home Observation for Measurement of the Environment" (see above in this note). Ethnic and racial differences in the coherence of scales have been examined as well; see Robert H.

- Bradley and others, "The Home Environment of Children in the United States, Part I: Variations by Age, Ethnicity, and Poverty Status," *Child Development* 72 (2001): 1844; Bradley, "Home Environment and Parenting," and Bingenheimer and others, "Measurement Equivalence" (see Bradley and Bingenheimer both above in this note). The HOME Inventory is the parenting measure that is used in most of the national, longitudinal studies in the United States, Canada, and Australia.
5. NICHD Early Child Care Research Network, "Child Care and Mother-Child Interaction in the First Three Years of Life," *Developmental Psychology* 35 (1999): 1399; Jeanne Brooks-Gunn and others, "Depending on the Kindness of Strangers: Current National Data Initiatives and Developmental Research," *Child Development* 71, no. 1 (2000): 257.
  6. Berlin, Brady-Smith, and Brooks-Gunn, "Links between Childbearing Age" (see note 2); NICHD Early Child Care Network, "Child Care and Mother-Child Interaction" (see note 5); Ryan, Martin, and Brooks-Gunn, "Is One Good Enough Parent Good Enough?" (see note 3).
  7. Christy Brady-Smith and Jeanne Brooks-Gunn, analyses prepared for this article using data from the Early Head Start Demonstration, 2004 (available from the National Center for Children and Families, Teachers College, Columbia University); Ryan, Martin, and Brooks-Gunn, "Is One Good Enough Parent Good Enough?" (see note 3).
  8. Kirby Deater-Deckard and others, "Physical Discipline among African American and European American Mothers: Links to Children's Externalizing Behaviors," *Developmental Psychology* 32, no. 6 (1996): 1065; Sara Harkness and Charles Super, "Culture and Parenting," in *Handbook of Parenting, vol. 2, Biology and Ecology of Parenting*, edited by Marc Bornstein (Mahwah, N.J.: Lawrence Erlbaum Associates, 1995), p. 211.
  9. Robert Bradley, "Environment and Parenting," *Handbook of Parenting*, 2nd ed., edited by Marc Bornstein (Hillsdale, N.J.: Lawrence Erlbaum Associates, 2002), p. 281; Judith Smith and Jeanne Brooks-Gunn, "Correlates and Consequences of Harsh Discipline for Young Children," *Archives of Pediatric and Adolescent Medicine* 151 (1997): 777; Leventhal and others, "The Homelife Interview" (see note 2); Allison Fuligni, Wen Jui Han, and Jeanne Brooks-Gunn, "The Infant-Toddler HOME in the Second and Third Years of Life," *Parenting: Science and Practice* 4 (2004).
  10. John Love and others, *Making a Difference in the Lives of Infants and Toddlers and Their Families: The Impacts of Early Head Start* (U.S. Department of Health and Human Services, 2002).
  11. Donna Spiker, Joan Ferguson, and Jeanne Brooks-Gunn, "Enhancing Maternal Interactive Behavior and Child Social Competence in Low Birth Weight, Premature Infants," *Child Development* 64 (1993): 754; Alan Sroufe, Byron Egeland, and Terri Kreutzer, "The Fate of Early Experience following Developmental Change: Longitudinal Approaches to Individual Adaptation in Childhood," *Child Development* 61, no. 5 (1990): 1363; Lindsay Chase-Lansdale, Jeanne Brooks-Gunn, and Elise Zamsky, "Young African-American Multigenerational Families in Poverty: Quality of Mothering and Grandmothering," *Child Development* 65, no. 2 (1994): 373.
  12. Pamela K. Klebanov, Jeanne Brooks-Gunn, and Marie McCormick, "Does Neighborhood and Family Poverty Affect Mothers' Parenting, Mental Health and Social Support?" *Journal of Marriage and the Family* 56, no. 2 (1994): 455; Linver, Brooks-Gunn, and Cabrera, "The Home Observation for Measurement" (see note 4).

13. Eve Clark, *The Lexicon in Acquisition* (Cambridge University Press, 1993); Betty Hart and Todd Risley, *Meaningful Differences in the Everyday Experience of Young American Children* (Baltimore: Brookes, 1995); Janellen Huttenlocher and others, "Early Vocabulary Growth: Relation to Language Input and Gender," *Developmental Psychology* 27 (1991): 236; Zehava Weizman and Catherine Snow, "Lexical Input as Related to Children's Vocabulary Acquisition: Effects of Sophisticated Exposure and Support for Meaning," *Developmental Psychology* 37 (2001): 265.
14. Pia Rebello Britto and Jeanne Brooks-Gunn, "Beyond Shared Book Reading: Dimensions of Home Process," *New Directions for Child Development* 92 (2001):73; Anat Ninio, "Joint Book Reading as a Multiple Vocabulary Acquisition Device," *Developmental Psychology* 19 (1983): 445; Catherine Snow and Anat Ninio, "The Contracts of Literacy: What Children Learn from Learning to Read Books," in *Emergent Literacy: Writing and Reading*, edited by William Teale and Elizabeth Sulzby (Norwood, N.J.: Ablex, 1986), p. 116.
15. See note 13.
16. Catherine Snow, "The Theoretical Basis for Relationships between Language and Literacy Development," *Journal of Research in Childhood Education* 6 (1991): 5; Anat Ninio and Catherine Snow, *Pragmatic Development* (Boulder, Colo.: Westview, 1996); Catherine Haden, Elaine Reese, and Robyn Fivush, "Mothers' Extratextual Comments during Storybook Reading: Stylistic Differences over Time and across Texts," *Discourse Processes* 21, no. 2 (1996): 135; Pia Rebello-Britto, Allison Fuligni, and Jeanne Brooks Gunn, "An Open Book? Effects of Home-Based Approaches on Children's Literacy Development," in *Handbook of Early Literacy Research*, vol. 2, edited by David Dickinson and Susan Neuman (New York: Guilford, forthcoming).
17. Linver, Brooks-Gunn, and Cabrera, "The Home Observation for Measurement" (see note 4); Bradley and Caldwell, *Home Observation* (see note 4).
18. Pamela K. Klebanov and others, "The Contribution of Neighborhood and Family Income to Developmental Test Scores over the First Three Years of Life," *Child Development* 69 (1998): 1420–36; Susan Mayer, *What Money Can't Buy: Family Income and Children's Life Chances* (Harvard University Press, 1997). The HOME Inventory allows items such as pans, household objects, or cereal boxes to be counted when they are used as musical instruments, for counting and classification, or for alphabet learning. It is not clear how often such items are counted in any given study, however.
19. Allison S. Fuligni and Jeanne Brooks-Gunn. "Measuring Mother and Father Shared Caregiving: An Analysis Using the Panel Study of Income Dynamics-Child Development Supplement," in *Conceptualizing and Measuring Father Involvement*, edited by R. Day and M. Lamb (Mahwah, N. J.: Erlbaum, 2004).
20. Ibid.; Klebanov and others, "The Contribution of Neighborhood and Family Income" (see note 18).
21. W. T. Boyce and others, "The Family Routines Inventory: Theoretical Origins," *Social Science and Medicine* 17 (1983): 193; Love and others, *Making a Difference* (see note 10).
22. Bornstein, *Handbook of Parenting* (see note 1); W. Andrew Collins and others, "Contemporary Research on Parenting: The Case for Nature and Nurture," *American Psychologist* 55, no. 2 (2001): 218; Maccoby and Martin, "Socialization in the Context of the Family" (see note 1).
23. Betty Hart and Todd Risley, *The Social World of Children Learning to Talk* (Baltimore: Paul Brookes Publishing, 1999).

24. Robert Plomin, "Genetic and Environmental Mediation of the Relationship between Language and Non-verbal Impairment in 4-Year-Old Twins," *Journal of Speech, Language, and Hearing Research* 46, no. 6 (2003): 1271.
25. Thomas Bouchard Jr., "Genetic Influence on Human Psychological Traits: A Survey," *Current Directions in Psychological Science* 13, no. 4 (2004): 148.
26. Michael Rutter and others, "Testing Hypotheses on Specific Environmental Causal Effects on Behavior," *Psychological Bulletin* 127 (2001): 291; Michael Rutter, "Nature, Nurture, and Development: From Evangelism through Science toward Policy and Practice," *Child Development* 73 (2002): 1.
27. M. Schiff and others, "Intellectual Status of Working-Class Children Adopted Early into Upper-Middle-Class Families," *Science* 200 (1978):1503-04; Marie Skodak and Harold Skeels, "A Final Follow-Up Study of One Hundred Adopted Children," *Journal of Genetic Psychology* 75 (1949): 85.
28. Michel Duyme, Annick-Camille Dumaret, and Stanislaw Tomkiewicz, "How Can We Boost IQs of 'Dull' Children? A Late Adoption Study," *Proceedings of the National Academy of Sciences, USA* 96 (1999): 8790.
29. It is important to realize that test scores within these groups of children show some stability; correlations between test scores in early childhood and adolescence were around .30. This demonstrates that even when stability is found, meaning that the rank ordering of children is somewhat similar across age, it is possible to increase mean scores (see Dickens, this volume).
30. Lynn Singer and others, "Cognitive Outcomes of Preschool Children with Prenatal Cocaine Exposure," *Journal of the American Medical Association* 291, no. 20 (2004): 2448.
31. Earlier studies have used different classifications of living arrangements, often combining relative, adoptive, and foster care. Children in relative care are often in the same household as the mother (that is, the grandmother has custody of the child). One of these studies has a similar finding to that of Singer and others reported here; see Toosje Thyssen Van Beveren, Bertis Little, and Melanie Spence, "Effects of Prenatal Cocaine Exposure and Postnatal Environment on Child Development," *American Journal of Human Biology* 12 (2000): 417. Another does not; see Gideon Koren and others, "Long-Term Neurodevelopmental Risks in Children Exposed in Utero to Cocaine. The Toronto Adoption Study," in *Cocaine: Effects on the Developing Brain*, edited by Barry Kosofsky and others (New York: New York Academy of Sciences, 1998), p. 306.
32. The mothers' ratings could not be used, because they had already talked about their emotional feelings about each twin.
33. Avshalom Caspi and others, "Maternal Expressed Emotion Predicts Children's Antisocial Behavior Problems: Using MZ-Twin Differences to Identify Environmental Effects on Behavioral Development," *Developmental Psychology* 40 (2004): 149.
34. Collins and others, "Contemporary Research on Parenting" (see note 22); Gerald Patterson, Barbara DeBaryshe, and Elizabeth Ramsey, "A Developmental Perspective on Antisocial Behavior," *American Psychologist* 44, no. 2 (1989): 329; Sandra Scarr, "Developmental Theories for the 1990s, Development and Individual Difference," *Child Development* 63 (1992): 1.
35. See note 13.
36. Helen Raikes and others, "Mother-Child Bookreading in Low-Income Families: Correlates and Outcomes during the First Three Years of Life," unpublished, 2004. Early Head Start is a federal program offered by

- the Administration on Children, Youth, and Families for pregnant woman and their children from birth to age three. Initiated in 1995 with 68 programs nationwide, as of 2004 it now serves 700 programs. The evaluation was a randomized control trial in seventeen sites, with about 3,000 families assigned to receive either Early Head Start services or not; Love and others, *Making a Difference* (see note 10).
37. Patterson, DeBaryshe, and Ramsey, "A Developmental Perspective on Antisocial Behavior" (see note 34).
  38. For reviews, see Bornstein, *Handbook of Parenting* (see note 1), and G. Downey and James Coyne, "Children of Depressed Parents: An Integrative Review," *Psychological Bulletin* 108 (1990), p. 50.
  39. Miriam Linver, Jeanne Brooks-Gunn, and Dafna Kohen, "Family Processes as Pathways from Income to Young Children's Development," *Developmental Psychology* 38, no. 5 (2002): 719; Jean Yeung and others, "How Money Matters for Young Children's Development: Parental Investment and Family Processes," *Child Development* 73, no. 6 (2002): 1861.
  40. Glen H. Elder Jr., *Children of the Great Depression: Social Change in Life Experience* (Boulder, Colo.: Westview Press, 1999).
  41. Vonnie McLoyd, "Socioeconomic Disadvantage and Child Development," *American Psychologist* 53, no. 2 (1998): 185; Rand Conger, Katherine Conger, and Glen Elder, "Family Economic Hardships and Adolescent Adjustment: Mediating and Moderating Processes," in *Consequences of Growing Up Poor*, edited by Greg Duncan and Jeanne Brooks-Gunn (New York: Russell Sage Foundation, 1997), p. 288.
  42. Yeung and others, "How Money Matters" (see note 39).
  43. Among these techniques are fixed-effects and longitudinal models, sibling models, and instrumental variable approaches.
  44. Harkness and Super, "Culture and Parenting" (see note 8); Cynthia Garcia-Coll and others, "Ethnic and Minority Parenting," in *Handbook of Parenting*, vol. 2: *Biology and Ecology of Parenting*, edited by Marc Bornstein (Hillsdale, N.J.: Lawrence Erlbaum Associates, Inc., 1995).
  45. Harkness and Super, "Culture and Parenting" (see note 8).
  46. Patricia M. Greenfield and others, "Cultural Pathways through Universal Development," *Annual Review of Psychology* 54 (2003): 461.
  47. Bornstein, *Handbook of Parenting* (see note 1).
  48. Patricia Greenfield, "Cultural Change and Human Development," in *Development and Cultural Change: Reciprocal Processes*, edited by Elliot Turiel (San Francisco: Wiley, 1999), p. 37; Garcia-Coll and others, "An Integrative Model" (see note 69).
  49. Gail A. Wasserman and others, "Psychosocial Attributes and Life Experiences of Disadvantaged Minority Mothers: Age and Ethnic Variations," *Child Development* 61 (1990): 566.; Gontran Lamberty and Cynthia Garcia-Coll, editors, *Puerto Rican Women and Children: Issues in Health, Growth, and Development* (New York: Guilford, 1994).
  50. Maccoby and Martin, "Socialization in the Context of the Family" (see note 1).
  51. Diana Baumrind, "An Exploratory Study of Socialization Effects on Black Children: Some Black-White Comparisons," *Child Development* 43 (1972): 261.

52. Jeanne Brooks-Gunn and Lindsay Chase-Lansdale, "Adolescent Parenthood," in *Handbook of Parenting*, vol. 3, *Status and Social Conditions of Parenting*, edited by Marc Bornstein (Mahwah, N.J.: Lawrence Erlbaum Associates, 1995), p. 113.
53. Deater-Deckard and others, "A Genetic Study of the Family Environment" (see note 8); Vonnie McLoyd and Julia Smith, "Physical Discipline and Behavior Problems in African American, European American, and Hispanic Children: Emotional Support as a Moderator," *Journal of Marriage and Family* 64 (2002): 40.
54. These effect sizes are reduced when characteristics such as maternal age, education, marital status, and income are controlled in regression analyses. These reductions range from 20 percent to 50 percent, depending on the parenting measure and the sample (that is, the reductions are much less in low-income samples, such as the Early Head Start Demonstration). Brady-Smith and Brooks-Gunn, analyses (see note 7); Pamela Klebanov and Jeanne Brooks-Gunn, analyses prepared for this article using data from the Infant Health and Development Program, 2004 (available from the National Center for Children and Families, Teachers College, Columbia University); Klebanov and others, "The Contribution of Neighborhood and Family Income" (see note 18); Klebanov, Brooks-Gunn, and McCormick, "Does Neighborhood and Family Poverty Affect Mothers' Parenting, Mental Health and Social Support?" (see note 12); Meredith Phillips and others, "Family Background, Parenting Practices, and the Black-White Test Score Gap," in *The Black-White Test Score Gap*, edited by Christopher Jencks and Meredith Phillips (Brookings, 1998), p. 103; Raikes and others, "Mother-Child Bookreading" (see note 36).
55. Jeanne Brooks-Gunn, Pamela Klebanov, and Fong-Ruey Liaw, "The Learning, Physical, and Emotional Environment of the Home in the Context of Poverty: The Infant Health and Development Program," *Children and Youth Services Review* 17, no. 1/2 (1995): 251; Klebanov, Brooks-Gunn, and McCormick, "Does Neighborhood and Family Poverty Affect Mothers' Parenting, Mental Health and Social Support?" (see note 12); Linver, Brooks-Gunn, and Cabrera, "The Home Observation for Measurement" (see note 4); Phillips and others, "Family Background," (see note 54); Raikes and others, "Mother-Child Bookreading" (see note 54).
56. Bingenheimer and others, "Measurement Equivalence" (see note 4); Robert Bradley and others, "Early Indications of Resilience and Their Relation to Experiences in the Home Environments of Low Birthweight, Premature Children Living in Poverty," *Child Development*, 65, no. 2 (1994): 346; Guang Guo and Kathleen Harris, "The Mechanisms Mediating the Effects of Poverty on Children's Intellectual Development," *Demography* 37 (2000): 431; Linver, Brooks-Gunn, and Cabrera, "The Home Observation for Measurement" (see note 4).
57. Klebanov and Brooks-Gunn, analyses (see note 54); Brady-Smith and Brooks-Gunn, analyses (see note 7).
58. Berlin, Brady-Smith, and Brooks-Gunn, "Links between Childbearing Age and Observed Maternal Behaviors" (see note 2); Brady-Smith and Brooks-Gunn, analyses (see note 7).
59. Smith and Brooks-Gunn, "Correlates and Consequences of Harsh Discipline" (see note 9); Bradley and others, "The Home Environment" (see note 4).
60. Love and others, *Making a Difference* (see note 10).
61. Less has been done vis-à-vis racial differences in teaching than in language. The limited evidence suggests that black-white differences exist, using measures such as quality of assistance in a teaching task; see Spiker, Ferguson, and Brooks-Gunn, "Enhancing Maternal Interactive Behavior" (see note 11).

62. A very small sample of black and white families was followed, including thirteen high SES children (whose parents were primarily professors, with one being black), twenty-three lower-middle-class children (from working-class families, with ten being black), and six children on welfare (all of whom were black). Consequently, race and social class are totally confounded at the upper and lower ends of the SES distribution. See Hart and Risley, *Meaningful Differences in the Everyday Experience* (see note 13); Hart and Risley, *The Social World* (see note 23).
63. Clark, *The Lexicon in Acquisition* (see note 13); Hart and Risley, *The Social World* (see note 23); Shirley Brice Heath, *Ways with Words* (Cambridge University Press, 1983).
64. Clark, *The Lexicon in Acquisition* (see note 13); David Dickinson and Patton Tabors, eds., *Beginning Literacy with Language: Young Children Learning at Home and School*. (Baltimore: Paul H. Brookes Publishing, 2001); Janellen Huttenlocher and others, "Early Vocabulary Growth" (see note 13).
65. Such studies do not exist because the cost of taping and transcribing mother-child conversations is prohibitive for large-scale studies. Thus, our knowledge of maternal language input and child language output is gleaned from studies that are unable to look directly at reductions in racial gaps.
66. Elaine Reese and Adell Cox, "Quality of Adult Book Reading Affects Children's Emergent Literacy," *Developmental Psychology* 35, no. 1 (1999): 20; Ninio and Snow, *Pragmatic Development* (see note 16).
67. Lisa McCabe and Jeanne Brooks-Gunn, "Pre- and Perinatal Home Visitation Interventions," in *Early Child Development in the 21st Century: Profiles of Current Research Initiatives*, edited by Jeanne Brooks-Gunn and others (Teachers College Press, Columbia University, 2003), p. 145.
68. Pia Rebello Britto, Allison S. Fuligni, and Jeanne Brooks-Gunn, "Reading, Rhymes, and Routines: American Parents and Their Young Children," in *Childrearing in America: Challenges Facing Parents with Young Children*, edited by Neal Halfon and others (Cambridge University Press, 2002), p. 117; Raikes and others, "Mother-Child Bookreading" (see note 36).
69. The differences between white and Hispanic mothers are not explained by the fact that many Hispanic mothers speak Spanish, and fewer Spanish than English children's books are available in the United States; see Cynthia Garcia-Coll and others, "An Integrative Model for the Study of Developmental Competencies in Minority Children," *Child Development* 67 (1996): 1891. In the Early Head Start Demonstration, both English-speaking and Spanish-speaking Hispanic mothers were less likely to read to their two- and three-year-olds than were white mothers; Raikes and others, "Mother-Child Bookreading" (see note 36).
70. Fuligni, Han, and Brooks-Gunn, "The Infant-Toddler HOME" (see note 9); Phillips and others, "Family Background" (see note 54); Raikes and others, "Mother-Child Bookreading" (see note 36).
71. Brooks-Gunn, Klebanov, and Liaw, "The Learning, Physical, and Emotional Environment" (see note 55); Klebanov, Brooks-Gunn, and McCormick, "Does Neighborhood" (see note 12); Guo and Harris, "The Mechanisms Mediating" (see note 56); Phillips and others, "Family Background" (see note 54).
72. Jeanne Brooks-Gunn and others, "Depending on the Kindness of Strangers: Current National Data Initiatives and Developmental Research," *Child Development* 71 (2000): 257.
73. Guo and Harris, "The Mechanisms Mediating the Effects of Poverty" (see note 56); Mayer, *What Money Can't Buy* (see note 18); Phillips and others, "Family Background" (see note 54).

74. For reviews, see Jeanne Brooks-Gunn, Lisa Berlin, and Allison Sidle Fuligni, "Early Childhood Intervention Programs: What about the Family?" in *Handbook of Early Childhood Intervention*, 2nd edition, edited by Jack P. Shonkoff and Samuel J. Meisel (New York: Cambridge University Press, 2000); Jeanne Brooks-Gunn, Alison Fuligni, and Lisa Berlin, *Early Child Development in the 21st Century: Profiles of Current Research Initiatives* (Teachers College Press, 2003); Jeanne Brooks-Gunn, "Intervention and Policy as Change Agents for Young Children," in *Human Development across Lives and Generations: The Potential for Change*, edited by P. Lindsay Chase-Lansdale, Kathleen Kiernan, and Ruth Friedman (Cambridge University Press, 2004).
75. This article does not review the program impacts on children; see W. Steven Barnett, "Long-Term Effects of Early Childhood Programs on Cognitive and School Outcomes," *The Future of Children* 5, no.3 (1995): 25–50; April Benesich, Jeanne Brooks-Gunn, and Beatrice Clewell, "How Do Mothers Benefit from Early Intervention Programs?" *Journal of Applied Developmental Psychology* 13, no. 3 (1992): 311; Janet Currie, "Early Childhood Education Programs," *Journal of Economic Perspectives* 15, no. 2 (2001): 213; Lynn Karoly and others, *Investing in Our Children: What We Know and Don't Know about the Cost and Benefit of Early Childhood Interventions* (Santa Monica, Calif.: RAND, 1998); Magnuson and Waldfogel, this volume.
76. See Brooks-Gunn, Berlin, and Fuligni, "Early Childhood Intervention Programs" (see note 74).
77. Ibid.
78. Differential effects of parenting interventions for mothers who are and are not depressed are discussed in the section on differential impacts by maternal characteristics. Our premise is that programs might want to target services to families with mental health issues, because program effects might be largest for this group.
79. Brooks-Gunn, Berlin, and Fuligni, "Early Childhood Intervention Programs (see note 74).
80. Marinus Van IJzendoorn, Femmie Juffer, and Marja Duyvesteyn, "Breaking the Intergenerational Cycle of Insecure Attachment: A Review of the Effects of Attachment Based Interventions on Maternal Sensitivity and Infant Security," *Journal of Child Psychology and Psychiatry and Allied Disciplines* 36, no. 2 (1995): 225.
81. Seven out of eight programs reviewed by Brooks-Gunn, Berlin, and Fuligni, "Early Childhood Intervention Programs" (see note 74), report such effects, as does Early Head Start; John Love and others, *Making a Difference* (see note 10). Positive impacts are much more likely to be found from coding of mother-child interchanges than from using the Warmth Scale from HOME.
82. See Brooks-Gunn, Berlin, and Fuligni, "Early Childhood Intervention Programs" (see note 74); John Love and others, *Making a Difference in the Lives of Infants and Toddlers and Their Families: The Impacts of Early Head Start* (U.S. Department of Health and Human Services, 2002).
83. Joseph Sperling and Isabell Lewis, *Partners for Learning* (Lewisville, N.C.: Kaplan, 1994).
84. John Love and others, *Making a Difference* (see note 10); Spiker, Ferguson, and Brooks-Gunn, "Enhancing Maternal Interactive Behavior" (see note 11).
85. Grover Whitehurst and others, "Outcomes of an Emergent Literacy Intervention in Head Start," *Journal of Educational Psychology* 86 (1994): 542.

86. David Dickenson and Susan Neuman, editors, *Handbook of Early Literacy Research*, vol. II (New York: Guilford, forthcoming).
87. Brooks-Gunn, Berlin, and Fuligni, "Early Childhood Intervention Programs" (see note 74).
88. Robert St. Pierre and Janet Swartz, "The Even Start Family Literacy Program," in *Two Generation Programs for Families in Poverty: A New Intervention Strategy*, edited by Shelia Smith (Westport, Conn.: Ablex Publishing, 1995), p. 37.
89. Daniel Nagin and Richard Tremblay, "Parental and Early Childhood Predictors of Persistent Physical Aggression in Boys from Kindergarten to High School," *Archives of General Psychiatry* 58 (2001): 389.
90. Bridget K. Hamre and Robert Pianta, "Early Teacher-Child Relationships and the Trajectory of Children's School Outcomes through Eighth Grade," *Child Development* 72 (2001): 625.
91. Allan E. Kazdin, "Treatment of Antisocial Behavior in Children: Current Status and Future Directions," *Psychological Bulletin* 102 (1987): 187.
92. Carolyn Webster-Stratton, Jamilya Reid, and Mary Hammond, "Preventing Conduct Problems, Promoting Social Competence: A Parent and Child Training Partnership in Head Start," *Journal of Child Clinical Psychology* 30 (2001): 283; Carolyn Webster-Stratton and Ted Taylor, "Nipping Early Risk Factors in the Bud: Preventing Substance Abuse, Delinquency, and Violence in Adolescence through Interventions Targeted at Young Children (0–8 years)," *Prevention Science* 2 (2001): 165; Carolyn Webster-Stratton, "Preventing Conduct Problems in Head Start Children: Strengthening Parenting Competences," *Journal of Consulting and Clinical Psychology* 66 (1998): 715.
93. Webster-Stratton, Reid, and Hammond, "Preventing Conduct Problems" (see note 92).
94. Matthew R. Sanders, Karen M. T. Turner, and Carol Markie-Dadds, "The Development and Dissemination of the Triple P—Positive Parenting Program: A Multilevel, Evidence-Based System of Parenting and Family Support," *Prevention Science* 3 (2002): 173–89; Conduct Problems Prevention Research Group, "Initial Impact of the Fast Track Prevention Trial for Conduct Problems I: The High Risk Sample," *Journal of Consulting and Clinical Psychology* 67 (1999): 631–47; Conduct Problems Prevention Research Group, "Initial Impact of the Fast Track Prevention Trial for Conduct Problems II: Classroom Effects," *Journal of Consulting and Clinical Psychology* 67 (1999): 648–57.
95. Barnett, "Long-Term Effects of Early Childhood Programs" (see note 75); Deanne Gomby and others, "Long-Term Outcomes of Early Childhood Programs: Analysis and Recommendations," *The Future of Children* 5, no. 3 (1995): 6. A notable exception is the Nurse Home Visitation Program, developed by Olds and his colleagues; impacts on young children's social-emotional well-being have been reported, as have some impacts on adolescent outcomes. See David Olds and others, "Effects of Nurse Home Visiting on Maternal Life-Course and Child Development: Age-Six Follow-Up of a Randomized Trial," *Pediatrics* (2004).
96. Researchers have conducted two comparative analyses of home-visiting programs. See Jean Layzer and others, "National Evaluation of Family Support Programs Final Report, vol. A, The Meta-Analysis," submitted to the Administration for Children, Youth, and Families (Cambridge, Mass.: Abt Associates, 2001) (ERIC no. ED462186); and Monica Sweet and Mark Appelbaum, "Is Home Visiting an Effective Strategy?: A Meta-Analytic Review of Home Visiting Programs for Families with Young Children," *Child Development* 75 (2004): 1435. Most recently Sweet and Appelbaum examined sixty programs, both experi-

mental and nonexperimental. Programs varied in length, target population, services, child age, and type of home visitor (professional or para-professional), making it difficult to say much about specific components. Almost all focused on groups of families at risk for poor child outcomes. Virtually all programs listed parent education (98 percent) and child development (85 percent) as goals. The authors examined the efficacy of the programs on ten outcomes, including parenting behavior, child cognitive outcomes, and child emotional outcomes. The weighted effect sizes were significant for all three, but were much smaller (about two-thirds smaller) for the experimental than the nonexperimental programs. There was some evidence that cognitive effects were positive when programs lasted longer and included more home visits. We speculate that home-visiting programs will be most likely to affect child outcomes if they have a schedule similar to that of the Nurse Home Visitation Program and if they ensure that families receive the recommended “dose” of visits (most families get fewer than half the visits planned by the program); see Deanne Gomby and others, “Long-Term Outcomes of Early Childhood Programs” (see note 95). We believe—although evidence, either pro or con, is not available—that programs such as Whitehurst’s dialogic reading program might be effective as part of a home-visiting program.

97. William Barnett, “Early Childhood Education,” in *School Reform Proposals: The Research Evidence*, edited by Alex Molner (Greenwich, Conn.: Information Age Publishing, 2002), p. 1; Lynn Karoly and others, *Investing in Our Children* (see note 75); Craig Ramey and others, “Early Educational Interventions for High-Risk Children: How Center-Based Treatment Can Augment and Improve Parenting Effectiveness,” in *Parenting and the Child’s World: Influences on Academic, Intellectual, and Social-Emotional Development*, edited by Sharon Landesman Ramey and others (Mahwah, N.J.: Lawrence Erlbaum Associates, 2002), p. 125.
98. Robert Bradley and others, “Impact of the Infant Health and Development Program (IHDP) on the Home Environment of Infants with Low Birth Weight,” *Journal of Educational Psychology* 86 (1994): 531.
99. Love and others, *Making a Difference* (see note 10).
100. Other countries have, or have had, more universal parenting programs. A series of home visits after the birth of a child are provided to all new mothers in several countries. See Shelia Kameron, “Early Childhood Intervention Policies: An International Perspective,” in *Handbook of Early Childhood Intervention*, edited by Samuel J. Meisels and others (Cambridge University Press, 2000), p. 613; Gomby and others, “Long-Term Outcomes of Early Childhood Programs” (see note 95).
101. See Duncan and Magnuson, this volume, and Currie, this volume.
102. Olds and others, “Effects of Nurse Home Visiting” (see note 95).
103. McCabe and Brooks-Gunn, “Pre- and Perinatal Home Visitation” (see note 67).
104. See Magnuson and Waldfogel, this volume.
105. Infant Health and Development Program, “Enhancing the Outcomes of Low-Birth-Weight, Premature Infants: A Multisite, Randomized Trial,” *Journal of the American Medical Association* 263 (1990): 3035; Pamela K. Klebanov, Jeanne Brooks-Gunn, and M. C. McCormick, “Maternal Coping Strategies and Emotional Distress: Results of an Early Intervention Program for Low Birth Weight Young Children,” *Developmental Psychology* 37, 5 (2001): 654; Spiker, Ferguson, and Brooks-Gunn, “Enhancing Maternal Interactive Behavior” (see note 11); Smith and Brooks-Gunn, “Correlates and Consequences of Harsh Discipline” (see note 9).

106. Klebanov and Brooks-Gunn, analyses (see note 54).
107. Love and others, *Making a Difference* (see note 10).
108. Fong-Ruey Liaw and Jeanne Brooks-Gunn, "Patterns of Low Birth Weight Children's Cognitive Development and Their Determinants," *Developmental Psychology* 29, no. 6 (1993): 1024; Jeanne Brooks-Gunn and others, "Enhancing the Cognitive Outcomes of Low Birth Weight, Premature Infants: For Whom Is the Intervention Most Effective?" *Pediatrics* 89, no. 8 (1992): 1209; Love and others, *Making a Difference* (see note 10).
109. Love and others, *Making a Difference* (see note 10). These results adjust for characteristics including maternal race, age, parity, income, and marital status.
110. David Olds and others, "Effects of Prenatal and Infancy Nurse Home Visitation on Surveillance of Child Maltreatment," *Pediatrics* 95 (1995): 365; Love and others, *Making a Difference* (see note 10).
111. Love and others, *Making a Difference* (see note 10).
112. Pamela Klebanov, Jeanne Brooks-Gunn, and Marie McCormick, "Maternal Coping Strategies and Emotional Distress: Results of an Early Intervention Program for Low Birth Weight Children," *Developmental Psychology* 37, no. 5 (2001): 654.
113. Love and others, *Making a Difference* (see note 10).
114. Harriet Kitzman and others, "Effects of Prenatal and Infancy Home Visitation by Nurses on Pregnancy Outcomes, Childhood Injuries, and Repeated Childbearing: A Randomized Controlled Trial," *Journal of the American Medical Association* 278 (1997): 644; David L. Olds and others, "Home Visiting by Paraprofessionals and by Nurses: A Randomized, Controlled Trial," *Pediatrics* (2002): 486-96.