Effects of Child Development Accounts on Early Social-Emotional Development
An Experimental Test

Jin Huang, PhD; Michael Sherraden, PhD; Youngmi Kim, PhD; Margaret Clancy, MSW

IMPORTANCE This study, based on Oklahoma’s statewide Child Development Accounts (CDAs) program, presents findings from the first experimental test of the hypothesis that creating lifelong savings accounts for children at birth promotes their long-term well-being.

OBJECTIVE To examine the effects of CDAs, an innovative social policy to encourage lifelong saving and asset building for long-term development, on parent-reported social-emotional development in early childhood.

DESIGN, SETTING, AND PARTICIPANTS A statewide randomized experiment of CDAs was conducted in 2008, drawing a probability sample of 7328 children from all infants born in two 3-month periods in Oklahoma (April 1 through June 30 and August 1 through October 31, 2007). After agreeing to participate in the experiment, caregivers of 2704 infants completed a baseline survey and were randomly assigned to treatment (n = 1358) and control groups (n = 1346). Approximately 84% of participants completed a follow-up survey in the spring of 2011.

INTERVENTIONS The intervention offered CDAs, built on the existing Oklahoma 529 college-savings plan, to treatment participants. It also provided additional financial incentives and information.

MAIN OUTCOMES AND MEASURES The primary outcome—child social-emotional development—is measured by scores from a 17-item version of the Ages and Stages Questionnaire: Social-Emotional. Caregivers completed it in the 3-year follow-up survey. Lower scores indicate better functioning.

RESULTS The CDAs have positive effects on social-emotional development for children at approximately age 4 years. The nonweighted treatment-control difference is −1.56 (90% CI, −2.87 to −0.22; P = .06), but the weighted difference is nonsignificant. The effects appear to be greater for disadvantaged subsamples, such as low-income households (weighted mean difference, −2.21; 90% CI, −4.01 to −0.42; P = .04).

CONCLUSIONS AND RELEVANCE As a complement to other early education and health interventions, CDAs may improve social-emotional development in early childhood. Their effects may be explained as a mediating process that influences parents. Child Development Accounts may influence parental attitudes, behaviors, expectations, and involvement; in turn, these may affect child development.
This study examines effects of Child Development Accounts (CDAs) on parent-reported social-emotional development in early childhood. Data come from a statewide experiment—SEED for Oklahoma Kids (SEED OK). Designed to give children and families (especially those with disadvantaged backgrounds) a structured opportunity to accumulate assets, CDAs are savings accounts that provide financial access, information, and incentives to encourage lifelong asset building and promote child development.\(^1\)\(^2\) Assets accumulated in CDAs may be used for education, homeownership, and other developmental purposes.\(^1\)\(^3\) Several countries have adopted CDA policies.\(^4\)

Child Development Accounts are grounded in the hypothesis that asset holding positively affects child development.\(^2\)\(^5\) Research has articulated ways in which asset holding influences multiple aspects of child well-being, including social-emotional development; assets are an indicator of parental resources for children. Individual attitudes and perspectives that allow parents to accumulate assets are connected to the attitudes and perspectives that allow them to prepare children for the future.\(^6\)\(^8\) We theorize that holding a dedicated account and accumulated assets for a child directly affects child development by providing resources for education and other developmental investments. We also posit that accounts and assets exert an indirect influence, shaping child development through effects on parental behavior, mental health, and involvement.\(^9\)\(^11\) The asset-holding process created by CDAs may provide parents and their children with opportunities to prepare for critical milestones in long-term development. For instance, assets for children's college education may cause parents to foster educational expectations in children and promote cognitive and social-emotional development.\(^2\)\(^6\)

Evidence from observational research supports these hypotheses, showing that assets are positively associated with children's educational outcomes,\(^12\)\(^14\) emotional and behavioral competencies,\(^14\)\(^15\) and educational expectations.\(^16\)\(^17\) For example, research shows a gap of social-emotional development at age 3 years between children from poor and wealthy backgrounds. The gap is partially explained by differences in the home learning environment, family interactions, and parenting practices.\(^19\) In particular, Williams Shanks\(^14\) demonstrated that the influence of household assets extends beyond income: assets were statistically and negatively associated with externalizing and internalizing behaviors among children aged 3 to 12 years. Controlling for several socioeconomic variables, other research finds that a dedicated savings account in a child's name is positively related to subsequent educational outcomes.\(^19\) We note that asset holding, not individual saving behavior, is associated with these effects.\(^39\)

Notwithstanding increasing policy interest in CDAs, to our knowledge, no experimental evidence traces CDAs' effects on early childhood development. We test the hypothesized effects of CDAs using data from the SEED OK experiment, which uses Oklahoma's college-savings plan (OK 529 plan) to encourage households to save for children's postsecondary education. College-savings plans are tax-advantaged programs designed by the federal government and operated by state governments.\(^20\)\(^21\) In the OK 529 plan, contributions up to $10 000 per year (or $20 000 for married couples filing jointly) are deductible on the state income tax return, and investment earnings are not subject to federal or state taxes if used for eligible educational costs. The SEED OK intervention supplemented the OK 529 plan's tax benefits with additional financial incentives and information.

**Methods**

**The SEED OK Experiment**

A statewide randomized experiment of CDAs, SEED OK drew a probability sample of 7328 children from infants born in two 3-month periods in Oklahoma (April 1 through June 30 and August 1 through October 31, 2007). The experiment oversampled African Americans, American Indians, and Hispanics. After agreeing to participate in the experiment, 2704 caregivers of these infants completed a baseline survey (response rate of 38.2%). Analyses show only minor differences between participants and nonparticipants.\(^22\) Approximately 99% of caregivers are mothers of these infants (for simplicity, we use the term mothers hereafter). After the baseline survey, SEED OK randomly assigned 1358 mothers to the treatment group and 1346 to the control group.\(^22\) The Oklahoma treasurer's office sent treatment mothers a packet containing information about the OK 529 plan and SEED OK financial incentives.\(^23\) The SEED OK experiment was approved by the institutional review boards from all participating organizations.

The study offered treatment mothers 3 financial incentives (see Figure for additional details; see also Sherrarden and Clancy\(^25\) and Zager et al\(^26\)). First, the state treasurer's office deposited $1000 in SEED OK funds into a state-owned OK 529 plan account, which the office opened automatically for all but 1 treatment child (1 mother cited religious reasons in opting out of the account). Money in state-owned accounts can be used only for children's postsecondary education, and nonqualified withdrawals are prohibited. Second, the study encouraged treatment mothers to open a participant-owned OK 529 plan account. The plan requires a $100 minimum initial contribution to open such an account. To remove any financial barrier to opening an account, SEED OK provided the required $100 for treatment mothers who opened participant-owned OK 529 plan account by April 15, 2009. Approximately 15% of treatment mothers (n = 200) and nearly 1% of control mothers (n = 10) opened such accounts by the end of 2011. Third, SEED OK offered a progressive feature: matching savings by low- and moderate-income treatment households. It offered a 1:1 match, up to $250 per year, to households with an annual adjusted gross income below $29 000, and a 0.5:1 match, up to $125, to households with an annual adjusted gross income from $29 001 through $43 499. The OK 529 plan sends treatment children account statements each quarter. To communicate the financial incentives discussed earlier, the treasurer's office regularly sends treatment mothers correspondence (eg, letters, postcards, and brochures) on behalf of the SEED OK study. Treatment mothers also occasionally receive small gifts (eg, T-shirts and storybooks) for treatment children.
Mothers in the control group received no information from SEED OK about the OK 529 plan. The state did not provide an automatically opened state-owned account for their child, and SEED OK offered these mothers no financial incentive. However, they might open participant-owned OK 529 plan accounts, as might any nonparticipant.

**Data and Sample**

This study uses data from the baseline and follow-up surveys conducted by telephone with SEED OK mothers. Researchers collected detailed demographic and socioeconomic information during baseline surveys in the fall of 2007 and spring of 2008. Follow-up surveys in the spring of 2011 collected information from the mothers on children's social-emotional development.

Of the 2704 SEED OK mothers, 2228 are included in the final analytic sample. Among 432 mothers not included in the follow-up survey, 316 could not be located. Analyses show that attrition occurs equally across treatment and control groups. We also exclude 44 mothers whose reports lack information on their child's social-emotional development.

**Outcome Measures**

This study measures social-emotional development with 17 items excerpted from the Ages and Stages Questionnaire: Social-Emotional for children aged 48 months. This reliable and valid standardized measure of social-emotional development is reported by parents and is commonly used to screen for children's behavior problems. These 17 items cover 3 social-emotional areas: self-regulation (9 items), compliance (2 items), and interaction with people (6 items).

Each item assesses the frequency of a particular behavior (eg, calming down within minutes when upset and settling down after periods of exciting activity). Possible responses include “most of the time,” “sometimes,” and “rarely or never” (assigned a value of 0, 5, and 10, respectively). The sum value of responses to these 17 items (ranging from 0 to 170) is an indicator of social-emotional development; lower scores indicate better functioning.

**Statistical Analysis**

We report baseline characteristics of the analytic sample (N = 2228) by treatment status and conduct between-group
ment of children. For all of these comparisons, we report non-weighted results and estimates adjusted with the sampling weight, which addresses issues of self-selection into the SEED OK experiment and sample attrition in the follow-up survey.22,28 Weighted results can be generalized to the population of children born in 2007 in Oklahoma. Nonweighted results, estimates of local average treatment effects for the subpopulation self-selecting into the study,29 are useful for assessing the experiment’s internal validity (SEED OK oversamples people of color and has a high proportion of low-income participants). Each set of results has important, although somewhat different, implications.

Two sensitivity tests examine the robustness of SEED OK’s estimated effects. First, we include demographic and socioeconomic variables in regression analyses. Second, we add 2 saving indicators: whether participants opened a participant-owned OK 529 plan account and made deposits into such an account (for both, 1 = yes and 0 = no).

In all analyses, P ≤ .10 (2-sided) indicates statistical significance. We do not apply the Bonferroni correction for multiple comparisons because it may inflate type II errors.30 We focus on the pattern of results in multiple comparisons: a consistent pattern of significant results over multiple comparisons indicates that significant treatment-control differences are not observed by chance.31

### Results

#### Descriptive Statistics

Table 1 presents the characteristics of both groups. The absence of significant treatment-control differences indicates that random assignment generated 2 comparable groups. While the results are not reported, we also compare baseline characteristics of those included in and excluded from the analytic sample. Mothers not reached in the follow-up survey are younger. They are more likely to be unemployed, rent a home, and receive welfare benefits. They have lower education and household income. However, Table 1 shows that attrition occurs equally across treatment and control groups.

#### Effects of the SEED OK Intervention

The mean (SD) score for social-emotional development in the analytic sample is 29.4 (18.8). Cronbach’s α (0.70) suggests a moderate level of internal consistency. Table 2 presents mean treatment-control differences on the social-emotional development scores. A pattern is clear in both the nonweighted and weighted results: the mean score for the treatment group is smaller than that for the control group (lower scores indicate better development). In nonweighted results, the treatment group’s mean score is 1.56 points (90% CI, −2.87 to −0.22) lower than that for the control group (P = .06), with significant subgroup-specific differences between the treatment and control conditions: mothers who lack a high school diploma (n = 487; mean difference, −3.48; 90% CI, −6.41 to −0.56; P = .05), have household income lower than 200% of the poverty line (n = 1496; mean difference, −2.21; 90% CI, −3.89 to −0.55; P = .03), receive welfare benefits (n = 965; mean differen-
The magnitude of Cohen's d for SEED OK is roughly similar to that of the Head Start program. The Head Start Impact Study finds that access to the program improves social-emotional development for 3-year-olds randomly assigned into Head Start. The study measures development by assessing parent-reported hyperactive behavior (effect size = –0.21), problem behaviors (effect size = –0.14), social skills at age 4 years (effect size = 0.11), and parent-reported positive relationships with their child at age 6 years (effect size = 0.10). Although the social-emotional development measures differ from those used in SEED OK, the Head Start Impact Study's effect sizes for mean differences can be considered benchmarks. Given the modest financial incentives provided by the SEED OK experiment to the treatment group, one could say that SEED OK is efficient in achieving an effect on this particular outcome, and its cost is relatively low. (We hasten to add, however, that Head Start has many developmental and social objectives. A single comparison cannot suggest that CDAs are more effective than Head Start overall.)

The effect of SEED OK on social-emotional development may be explained by influences on parental attitudes, behaviors, and involvement; such influences may, in turn, affect children's social-emotional outcomes. A qualitative analysis of interviews conducted with 60 SEED OK mothers when the children were 2 to 3 years old supports that explanation: the intervention motivates mothers, especially those with disadvantaged backgrounds, to raise their expectations and increase support for children's education in the precollege years. One treatment mother facing great financial pressure stated that CDAs made her feel “a whole lot better” and caused her to “have some hope for” her child. Treatment mothers also said that they plan to tell their children about the account when they are young, indicating potential changes in parent-child interactions: “I’ll be like this is your mail [state-owned account statement], you know, and this is ‘cause you got this money when you were born.” The intervention seems to mo-

### Table 2. Mean Difference in Social-Emotional Development Between the Treatment and Control Groups

<table>
<thead>
<tr>
<th>Sample</th>
<th>Nonweighted</th>
<th></th>
<th>Weighted</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Treatment</td>
<td>Control</td>
<td>Diff. (90% CI)</td>
<td>Treatment</td>
</tr>
<tr>
<td>Full analytic sample (N = 2228)</td>
<td>29.02</td>
<td>30.56</td>
<td>-1.56(-2.87 to -0.22)</td>
<td>28.56</td>
</tr>
<tr>
<td>Disadvantage</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>HH income &lt;200% poverty line (n = 1496)</td>
<td>31.49</td>
<td>33.71</td>
<td>-2.22(-3.89 to -0.55)</td>
<td>30.91</td>
</tr>
<tr>
<td>Maternal education less than high school (n = 487)</td>
<td>34.98</td>
<td>38.46</td>
<td>-3.48(-6.41 to -0.56)</td>
<td>33.63</td>
</tr>
<tr>
<td>HH receiving welfare benefits (n = 965)</td>
<td>31.18</td>
<td>34.41</td>
<td>-3.23(-5.35 to -1.12)</td>
<td>30.79</td>
</tr>
<tr>
<td>Renters (n = 1310)</td>
<td>32.42</td>
<td>34.65</td>
<td>-2.23(-4.02 to -0.46)</td>
<td>32.28</td>
</tr>
<tr>
<td>Race</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>White (n = 1055)</td>
<td>25.43</td>
<td>25.82</td>
<td>-0.39(-2.14 to 1.37)</td>
<td>25.94</td>
</tr>
<tr>
<td>African American (n = 387)</td>
<td>31.94</td>
<td>33.45</td>
<td>-1.51(-4.93 to 1.88)</td>
<td>31.11</td>
</tr>
<tr>
<td>American Indian (n = 425)</td>
<td>28.39</td>
<td>31.14</td>
<td>-2.75(-5.73 to 0.23)</td>
<td>28.74</td>
</tr>
<tr>
<td>Hispanic (n = 342)</td>
<td>37.40</td>
<td>40.65</td>
<td>-3.25(-6.68 to 0.18)</td>
<td>38.12</td>
</tr>
</tbody>
</table>

**Abbreviations:** Diff., difference between treatment and control groups; HH, household.

* The analyses in the second column are weighted to be representative to infants born in two 3-month periods in Oklahoma (April through June and August through October 2007).

**The analyses in the second column are weighted to be representative to infants born in two 3-month periods in Oklahoma (April through June and August through October 2007).**

P < .05.
tive parents to increase investment in their children; another treatment mother said, “I’m going to have to get him [the child] through school so he can use this and go to college.”

Findings in this study indicate that CDAs may increase social-emotional development for young children, and this is not surprising. Growing up in socioeconomically disadvantaged households heightens the risk that children will not be prepared for school; they may lack social-emotional competencies, and their cognitive development may be delayed. The SEED OK intervention appears to counteract some effects of disadvantage.

Several early education and health interventions seek to enhance child development. Head Start and food supplement programs are prominent examples. Universal and progressive CDAs may complement these policies, enhancing parental expectations and involvement in child development. The accounts may work indirectly, increasing the likelihood that parents will attend to the importance of early experiences, interact more with their children, offer supportive parenting behaviors, and foster educational expectations. This process can, in turn, contribute to social-emotional health, which is important for children’s academic success.

This study has some limitations. First, the outcome measure is self-reported by mothers, not rated by direct observation of children’s social-emotional development. Although studies validate the parent-completed Ages and Stages Questionnaire: Social-Emotional, the potential effects of CDAs on mothers’ mental health may bias the measure’s results. Second, the study shows only an emerging effect of CDAs, and we observe that effect after the provision of only modest financial incentives. Thus, future research should examine the “dosage effects” of asset building to determine their influence on child development. Third, although participating and nonparticipating mothers look much the same on most observed variables, SEED OK’s low participation rate may raise the issue of external validity. Approximately 16% of the SEED OK participants were lost in attrition by the follow-up survey. This may raise the concern of selection bias, although treatment and control groups are well balanced in the final analytic sample.

Conclusions

At this early stage, it is hard to assess SEED OK’s full effect on the well-being of children, and it is not clear whether the improvements in social-emotional development will diminish over time. It should be noted that the follow-up survey does not find significant effects on children’s cognitive development, which is measured by counting numbers, identifying colors, and recognizing letters. The children were approximately 4 years old at the time of the follow-up survey, and CDA funds are not readily available for consumption. Whether SEED OK will affect subsequent academic achievement remains to be seen. It is an ongoing experiment—we will learn more as the children enter elementary school and progress beyond it. Analysis of SEED OK’s cost-effectiveness may further improve our understanding of the experiment’s effects. Early positive effects on social-emotional development may be carried forward to improvements in long-term social-emotional development, leading to better performance in schooling and other important life tasks. We are reminded of findings by Heckman and Kautz on the importance of early childhood development and “soft skills,” which include social-emotional skills, for educational and life success. Although it is far too early to draw conclusions about the long-term effects of CDAs, asset building in early life appears to be an effective strategy for developing soft skills in very young children. Given the results of this study, we can also add that this may be especially true for disadvantaged children.

Table 3. Weighted Mean Difference in Social-Emotional Development in Multiple Regression Analyses

<table>
<thead>
<tr>
<th>Sample</th>
<th>Social-Emotional Development</th>
<th>Sensitivity Test 1, Mean Diff. (90% CI)</th>
<th>Sensitivity Test 2, Mean Diff. (90% CI)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Full analytic sample (N = 2215)</td>
<td>-1.13 [-2.44 to 0.18]</td>
<td>-1.48 [-2.87 to -0.09]</td>
<td></td>
</tr>
<tr>
<td>Disadvantage</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>HH income &lt;200% poverty line (n = 1487)</td>
<td>-2.01 [-3.71 to -0.31]</td>
<td>-2.33 [-4.04 to -0.53]</td>
<td></td>
</tr>
<tr>
<td>Maternal education less than high school (n = 480)</td>
<td>-4.00 [-6.94 to -1.05]</td>
<td>-4.04 [-7.02 to -1.10]</td>
<td></td>
</tr>
<tr>
<td>HH receiving welfare benefits (n = 963)</td>
<td>-3.48 [-5.71 to -1.26]</td>
<td>-3.74 [-6.03 to -1.45]</td>
<td></td>
</tr>
<tr>
<td>Renters (n = 1305)</td>
<td>-2.32 [-4.17 to -0.47]</td>
<td>-2.75 [-4.64 to -0.87]</td>
<td></td>
</tr>
<tr>
<td>Race</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>White (n = 1052)</td>
<td>-0.59 [-2.30 to 1.12]</td>
<td>-0.75 [-2.60 to 1.10]</td>
<td></td>
</tr>
<tr>
<td>African American (n = 385)</td>
<td>-1.71 [-6.07 to 1.25]</td>
<td>-3.06 [-7.12 to 1.05]</td>
<td></td>
</tr>
<tr>
<td>American Indian (n = 424)</td>
<td>-2.68 [-5.83 to 0.47]</td>
<td>-2.89 [-5.90 to 0.65]</td>
<td></td>
</tr>
<tr>
<td>Hispanic (n = 335)</td>
<td>-3.00 [-6.40 to 0.40]</td>
<td>-3.41 [-6.87 to 0.06]</td>
<td></td>
</tr>
</tbody>
</table>

Abbreviations: Diff., difference between treatment and control groups; HH, household.

The analyses are weighted to be representative to infants born in two 3-month periods in Oklahoma (April through June and August through October 2007). Control variables include variables reported in Table 1. Results of control variables are not reported in this table.

To control for sampling variances, test includes demographic and socioeconomic variables reported in Table 1.

Test controls for demographic and socioeconomic variables as well as 2 saving indicators: whether participants open a participant-owned OK 529 plan account and whether they make deposits into the participant-owned OK 529 plan account.

p < .10.

p < .05.

p < .01.

"The analyses are weighted to be representative to infants born in two 3-month periods in Oklahoma (April through June and August through October 2007). Control variables include variables reported in Table 1. Results of control variables are not reported in this table.

The analyses are weighted to be representative to infants born in two 3-month periods in Oklahoma (April through June and August through October 2007). Control variables include variables reported in Table 1. Results of control variables are not reported in this table.

The analyses are weighted to be representative to infants born in two 3-month periods in Oklahoma (April through June and August through October 2007). Control variables include variables reported in Table 1. Results of control variables are not reported in this table.

The analyses are weighted to be representative to infants born in two 3-month periods in Oklahoma (April through June and August through October 2007). Control variables include variables reported in Table 1. Results of control variables are not reported in this table.

The analyses are weighted to be representative to infants born in two 3-month periods in Oklahoma (April through June and August through October 2007). Control variables include variables reported in Table 1. Results of control variables are not reported in this table.

The analyses are weighted to be representative to infants born in two 3-month periods in Oklahoma (April through June and August through October 2007). Control variables include variables reported in Table 1. Results of control variables are not reported in this table.

The analyses are weighted to be representative to infants born in two 3-month periods in Oklahoma (April through June and August through October 2007). Control variables include variables reported in Table 1. Results of control variables are not reported in this table.

The analyses are weighted to be representative to infants born in two 3-month periods in Oklahoma (April through June and August through October 2007). Control variables include variables reported in Table 1. Results of control variables are not reported in this table.

The analyses are weighted to be representative to infants born in two 3-month periods in Oklahoma (April through June and August through October 2007). Control variables include variables reported in Table 1. Results of control variables are not reported in this table.

The analyses are weighted to be representative to infants born in two 3-month periods in Oklahoma (April through June and August through October 2007). Control variables include variables reported in Table 1. Results of control variables are not reported in this table.

The analyses are weighted to be representative to infants born in two 3-month periods in Oklahoma (April through June and August through October 2007). Control variables include variables reported in Table 1. Results of control variables are not reported in this table.

The analyses are weighted to be representative to infants born in two 3-month periods in Oklahoma (April through June and August through October 2007). Control variables include variables reported in Table 1. Results of control variables are not reported in this table.

The analyses are weighted to be representative to infants born in two 3-month periods in Oklahoma (April through June and August through October 2007). Control variables include variables reported in Table 1. Results of control variables are not reported in this table.

The analyses are weighted to be representative to infants born in two 3-month periods in Oklahoma (April through June and August through October 2007). Control variables include variables reported in Table 1. Results of control variables are not reported in this table.

The analyses are weighted to be representative to infants born in two 3-month periods in Oklahoma (April through June and August through October 2007). Control variables include variables reported in Table 1. Results of control variables are not reported in this table.

The analyses are weighted to be representative to infants born in two 3-month periods in Oklahoma (April through June and August through October 2007). Control variables include variables reported in Table 1. Results of control variables are not reported in this table.

The analyses are weighted to be representative to infants born in two 3-month periods in Oklahoma (April through June and August through October 2007). Control variables include variables reported in Table 1. Results of control variables are not reported in this table.

The analyses are weighted to be representative to infants born in two 3-month periods in Oklahoma (April through June and August through October 2007). Control variables include variables reported in Table 1. Results of control variables are not reported in this table.

The analyses are weighted to be representative to infants born in two 3-month periods in Oklahoma (April through June and August through October 2007). Control variables include variables reported in Table 1. Results of control variables are not reported in this table.

The analyses are weighted to be representative to infants born in two 3-month periods in Oklahoma (April through June and August through October 2007). Control variables include variables reported in Table 1. Results of control variables are not reported in this table.

The analyses are weighted to be representative to infants born in two 3-month periods in Oklahoma (April through June and August through October 2007). Control variables include variables reported in Table 1. Results of control variables are not reported in this table.

The analyses are weighted to be representative to infants born in two 3-month periods in Oklahoma (April through June and August through October 2007). Control variables include variables reported in Table 1. Results of control variables are not reported in this table.

The analyses are weighted to be representative to infants born in two 3-month periods in Oklahoma (April through June and August through October 2007). Control variables include variables reported in Table 1. Results of control variables are not reported in this table.

The analyses are weighted to be representative to infants born in two 3-month periods in Oklahoma (April through June and August through October 2007). Control variables include variables reported in Table 1. Results of control variables are not reported in this table.

The analyses are weighted to be representative to infants born in two 3-month periods in Oklahoma (April through June and August through October 2007). Control variables include variables reported in Table 1. Results of control variables are not reported in this table.

The analyses are weighted to be representative to infants born in two 3-month periods in Oklahoma (April through June and August through October 2007). Control variables include variables reported in Table 1. Results of control variables are not reported in this table.

The analyses are weighted to be representative to infants born in two 3-month periods in Oklahoma (April through June and August through October 2007). Control variables include variables reported in Table 1. Results of control variables are not reported in this table.
Obtained funding: Sherraden, Clancy. Administrative, technical, or material support: Sherraden, Clancy. Study supervision: Sherraden. Conflict of Interest Disclosures: None reported. Funding/Support: This study was supported by the Ford Foundation and the Charles Stewart Mott Foundation. Role of the Sponsor: The funding sources had no role in the design and conduct of the study; collection, management, analysis, or interpretation of the data; preparation, review, or approval of the manuscript; and decision to submit the manuscript for publication. Additional Contributions: We especially value our partnership with the state of Oklahoma: Ken Miller, MBA, MBA, BA, State Treasurer; Scott Meacham, JD, MBA, BA, former State Treasurer; Tim Allen, BS, Deputy Treasurer for Communications and Program Administration; and James Wilbanks, PhD, former Director of Revenue and Fiscal Policy. We appreciate the contributions of staff at RTI International. The Oklahoma 529 College Savings Plan Program Manager, TIAA-CREF, has also been a valuable partner. At the Center for Social Development, Mark Schreiner, PhD, Yunju Nam, PhD, and Nora Wikoff, MSW, assisted in managing the survey data and numerous staff members contributed to the SEED OK research and program management over several years. Dr. Schreiner and Nam, Sandy Beverly, PhD, and Ramesh Raghavan, PhD, MD, provided careful review and insightful comments, and Chris Leiker, MA, contributed editorial assistance. As consultants of the SEED OK study, Dr. Schreiner, Nam, and Beverly received financial compensation for their work.

REFERENCES


