

ASSET BUILDING PROGRAM

INVESTING IN CHILDREN:

CHILD DEVELOPMENT ACCOUNTS AS AN EARLY CHILDHOOD INTERVENTION

TERRI FRIEDLINE AND NIK SCHUETZ, SCHOOL OF SOCIAL WELFARE, UNIVERSITY OF KANSAS

JULY 2014

Child Development Accounts (CDAs)—specially designed accounts opened in children’s own names—are a preventive, economic intervention that can complement investments made by existing early childhood interventions and advance their mission of helping children reach their full potential. Poverty is an inhibitor of children’s opportunities for educational and economic advancement. Federal, state, and local governments have dedicated substantial resources to mitigating the effects of poverty. CDAs are a complementary strategy with great potential but one that is underutilized. The positive outcomes of CDA ownership and development can be supported by appropriate policy design and by providing appropriate, intentional preparation to children about their CDAs.

Early childhood interventions¹—a term often used to refer to programs like pre-kindergarten, preschools, child development centers, and Head Start—aim to prepare children at birth or infancy through age eight for school both developmentally and educationally and are designed to lessen strains on the K-12 education system by reducing the need for remediation.² Such interventions teach children

things like grasping abstract concepts, counting numbers, reciting the alphabet, social skills, and expanding vocabulary—skills important for achieving success in kindergarten and beyond. By the time these children reach ages five or six, they will join the approximately 3 million who annually enroll in kindergarten, a milestone widely considered to be the start of children’s educational careers and the foundation on which they will build the rest of their lives.³

In these ways, early childhood interventions intend to supplement families’ investments, prepare children for their educational careers, and help children reach their full potential. Each year, about 624,000 children participate in early childhood interventions, approximately one quarter of whom come from families with annual incomes below \$30,000 and almost half come from families with annual incomes above \$50,000. While beneficial to all children,

¹ When discussing early childhood interventions, we refer mostly to center-based, preschool programs attended by children in Head Start and child development centers. While home-based programs (such as those where an interdisciplinary team of teachers, early child development specialists, speech and language pathologists, and physical and occupational therapists visit with children in the home to ensure proper acquisition of developmental milestones) are an important part of early childhood intervention strategies, they are not the primary focus.

² US Census Bureau, 2012a; These numbers are hard to count. For example, Head Start reports having served over 1 million children ages birth to 5 years during the 2011-2012 fiscal year across all their programs from preschool to child and pregnancy care (US Department of Health & Human Services, 2012).

³ US Census Bureau, 2012b.

these interventions may be particularly powerful for children growing up in poverty and may prevent the effects of poverty that emerge later in life. As will be discussed, these interventions make short-term developmental and educational investments in children that families may otherwise be unable to afford. Likewise, families also need opportunities to make short- and long-term economic investments in their children.

While beneficial to all children, early childhood interventions may be particularly powerful for children growing up in poverty.

This paper begins to build a case for Child Development Accounts (CDAs) as an early childhood intervention with the potential to complement existing early childhood interventions given the similarities between their goals and outcomes. CDAs also provide opportunities for families to make economic investments in their children. Combined, CDAs and early childhood interventions may prepare children for success in kindergarten and beyond, especially for those living in poverty. CDAs delivered at age five or six and earlier may help existing early childhood interventions advance their aims—ultimately ensuring that children living in poverty grow up with expanded opportunities for success and improved life chances already afforded to their higher-income or financially secure peers.

By situating poverty as an inhibitor of children's opportunities for educational and economic advancement and explaining the role of early childhood interventions for mitigating the effects of poverty, we can then evaluate the potential of CDAs to mitigate these effects. Given that CDAs are accounts opened in children's names at birth or shortly thereafter, ownership and development are reviewed to understand how to prepare young children to become the owners of CDAs. The paper concludes with policy design considerations for CDAs as an early childhood intervention

and incorporating concepts of children's ownership and development into CDAs.

Poverty Inhibits Children's Opportunities for Educational and Economic Advancement

Disparities exist in children's ability to benefit from economic investments that prepare them for enrollment into kindergarten and for their future educational and economic advancement. Take, for example, the child who grows up in a financially secure or higher-income family with the resources to make economic investments in their development and educational achievement, like affording educational and developmentally appropriate toys, the latest technology, and trips to parks and museums. With the capacity to make these important investments, the family helps prepare their child for counting numbers and reciting the alphabet and likely expects them to achieve developmentally and educationally. These expectations may in turn continue to shape how the family interacts with and invests in their child.⁴ In addition to basic needs,⁵ the family may be able to afford economic investments for services like lawn care, car repair, etc. that free up their time and much-needed mental energy for remaining consistent, engaged, and effective caregivers. The family may also be able to afford to save for their child's future education or inheritance, potentially setting their child up with opportunities for educational and economic advancement in their adult years.

In comparison, the child whose family is not financially secure—particularly a lower-income family living near or below the poverty line—is not afforded these same luxuries, nor are they guaranteed to arrive at kindergarten with the preparations needed to achieve.⁶ The lower-income family

⁴ Gray, Clancy, M. Sherraden, Wagner, & Miller-Cribbs, 2012.

⁵ Leventhal & Newman, 2010; Sun & Li, 2011.

⁶ Notably, these realities may have less to do with families' willingness to provide stimulating learning environments for their children and more to do with their financial capacity to do so. Caution is warranted against associating children's developmental and academic preparation with families'

may also be unable to afford economic investments to make their lives and time efficient, meaning they may experience constraints that limit the amount and quality of time spent with their child—tradeoffs that may help to secure basic needs, but crowd out the mental energy needed to prepare their child developmentally or educationally or to promote positive expectations for the future.⁷ Without the resources to make economic investments, any high expectations that the lower-income family has for their child may erode over time. Any plans to save for their child’s future education or inheritance may be out of reach.

Children have no control over the economic resources of the families into which they are born or raised, yet the abundance or scarcity of economic resources dramatically shapes their life chances.

Children have no control over the economic resources of the families into which they are born or raised, yet the abundance or scarcity of economic resources dramatically shapes their life chances. The effects of poverty have been found to be especially detrimental when experienced early in childhood.⁸ By the time they reach kindergarten, children living in poverty are well behind their higher-income or financially secure peers. These early gaps are maintained or expand across children’s educational careers,⁹ meaning that children’s preparation for kindergarten matters for the long-term. Poverty’s effects are likely cumulative: the child who grows up in a family that

irresponsibility, particularly for children growing up in poverty.

⁷ Mullainathan & Shafir, 2013.

⁸ Aber, Bennett, Conley, & Li, 1997; Brooks-Gunn & Duncan, 1997; Duncan, Yeung, Brooks-Gunn, & Smith, 1998; Farah, Shera, Savage, et al., 2006; Williams Shanks & Robinson, 2013; Yeung & Conley, 2008.

⁹ Bali & Alvarez, 2004; Phillips, Crouse, & Ralph, 1998; Reardon, 2011.

cannot afford a stimulating environment to cultivate foundational skills likely enrolls in kindergarten where they fall behind their financially secure peers.¹⁰ These children may struggle to catch up and may never do so, eventually limiting their opportunities for educational and economic advancement.

The child who performs well in kindergarten may experience an upward achievement trajectory across their educational careers, receiving and leveraging opportunities that propel them even further ahead of their counterparts. It is not a stretch to consider that early development and educational achievement shaped by families’ economic resources and investments serve as a foundation for life chances since educational achievement is linked to labor market participation, income, and asset accumulation.¹¹

Early Childhood Interventions Mitigate the Effects of Poverty

Early childhood interventions aim to narrow gaps created by poverty through the investment in and provision of high quality preschool education for children.¹² Early childhood interventions can supplement and augment families’ economic investments to improve educational and economic advancement. In other words, early childhood interventions make the short-term investments that families may be unable to afford, as many of these programs specifically target children living in poverty. Such interventions may be paramount to closing gaps that only widen across time if left unattended.¹³

While in recent years programs have taken criticisms and absorbed budget cuts due to government sequestration and austerity measures,¹⁴ success stories from around the

¹⁰ Campbell, Pungello, Miller-Johnson, Burchinal, & Ramey, 2001; Heckman & Raut, 2013; Siegler, 2009.

¹¹ Mishel, Bivens, Gould, & Shierholz, 2012.

¹² Currie, 2001; Stevens, 2012.

¹³ Campbell, Pungello, Miller-Johnson, Burchinal, & Ramey, 2001; Heckman & Raut, 2013; Siegler, 2009.

¹⁴ Chu, 2013; Sequestration was estimated to cut \$400 million from Head Start and affect approximately 700,000 young

United States continue to offer encouragement for future investment. New Jersey, for example, took the progressive leap of mandating high-quality pre-kindergarten programs for all three- and four-year-old children in the highest poverty districts.¹⁵ All four-year-old children growing up in Oklahoma receive a full year of free, high-quality pre-kindergarten. Oklahoma children growing up in poverty are eligible for even earlier interventions.¹⁶ The President's 2014 State of the Union speech also renewed conversations about early childhood interventions.¹⁷ By investing in interventions that serve young children, states like New Jersey and Oklahoma are making powerful statements about where and how limited budgetary resources should be funneled to provide the best chances for mitigating the effects of poverty on children's educational and economic advancement, and, ultimately, their life chances.

Investments in early childhood interventions have a demonstrated history of success. Children's attendance at preschool programs in Head Start or child development centers is related to experiencing short- and long-term positive effects on educational achievement.¹⁸ Early childhood intervention program attendance is associated with children's improved outcomes in reading and math achievement two to three years later.¹⁹ Improvements in achievement are important given that children can be identified as being talented or gifted as early as kindergarten,²⁰ which may serve to track children throughout their educational careers and shape later educational opportunities. There may even be improved outcomes as far as 25 years later, with links to higher educational attainment, income, socio-economic status, and health insurance coverage and lower rates of cardiovascular

children. In fact, appropriations have been reduced five out of the last 10 years.

¹⁵ Mead, 2009.

¹⁶ Kristof, 2013.

¹⁷ Lu, 2014; To watch President Obama's State of the Union speech, visit here: <http://www.whitehouse.gov/sotu>.

¹⁸ Burger, 2010.

¹⁹ Heckman, Moon, Pinto, Savelyev, & Yavitz, 2010; Reynolds & Temple, 1998.

²⁰ Borland & Wright, 1994; Wright & Borland, 1993.

and metabolic diseases.²¹ Benefits of investing in early childhood programs may extend to the broader society via a population that experiences improved college enrollment and graduation rates, reduced income inequality, expanded opportunities for economic advancement, and increased tax revenues.²²

From this perspective, early childhood interventions take a preventive approach to closing gaps created by poverty with the potential for effects on individual children and society. As we have learned on numerous occasions from the health profession,²³ prevention is perhaps the best medicine. Prevention suggests that interventions to reduce or eliminate a problem should precede its potential for occurrence. Rather than delivering expensive treatments after a health condition emerges, it may be more effective and cost efficient to prevent the condition in the first place. Rather than intervening when children reach high school or enter college or the labor market—later educational and economic outcomes linked to earlier developmental and educational achievement—why not intervene earlier in the life course? If we want to reduce or eliminate educational and economic gaps and to improve the life chances of children growing up in poverty, we should apply lessons learned from prevention and introduce interventions early in life.

Child Development Accounts Are an Early Childhood Intervention

Child Development Accounts (CDAs) are uniquely positioned to complement the poverty mitigation goals of existing early childhood interventions by increasing the investments families are able to make in their children in the short-term and improving their educational and economic advancement over time. In this way, CDAs represent a preventive mechanism by leveraging children's early improvements in educational achievement and maintaining or advancing them across the life course.

²¹ Campbell, Conti, Heckman, et al., 2014; Reynolds, Temple, Ou, Arteaga, & White, 2011.

²² Heckman, 2006; Heckman & Raut, 2013.

²³ Yancey, 2012.

CDAs also provide families and their children with an opportunity to make short- and long-term economic investments like saving for future education. Thus, CDAs make investments in children in ways that typical early childhood interventions like Head Start and child development centers cannot—by investing in children via saving.

CDAs have been proposed as a mechanism for providing savings accounts directly to children with particular emphasis on access for those from lower-income households.²⁴ The America Saving for Personal Investment, Retirement, and Education (ASPIRE) Act proposes that CDAs be automatically opened at birth for every newborn citizen with an initial \$500 deposit with which they can accrue savings and earn interest tax-free.²⁵ Notably, CDAs are opened in children’s names, signifying that children are the owners and intended beneficiaries of any accumulated savings. Children whose households’ incomes fall below certain thresholds are eligible to receive subsidies to incentivize their saving, like dollar-for-dollar matches on monies deposited into accounts. CDAs are proposed to be used across the life course with withdrawals permitted after age 18 toward expenses like education, home ownership, and retirement.

Potential Effects on Educational and Economic Advancement

CDAs aim to alter the trajectories of children’s educational and economic futures and a growing body of research provides some convincing evidence that CDAs may indeed achieve this aim. It is hoped that children with CDAs—particularly those from lower-income or less financially secure families—can experience improved development and educational achievement,²⁶ increased college

enrollment and graduation,²⁷ reduced student loan burdens,²⁸ established and maintained relationships with mainstream banking institutions,²⁹ and diversified asset portfolios³⁰ as they advance across the life course.

CDAs are uniquely positioned to complement the poverty mitigation goals of existing early childhood interventions by increasing the investments families are able to make in their children in the short-term and improving their educational and economic advancement over time.

These relationships have been well-documented by research conducted within the last decade. Even as early as age four, children with CDAs experience positive effects on their social-emotional development—effects that are more pronounced among children growing up in lower-income families.³¹ That is, children with CDAs may be more competent in developing positive self-regulation and social interaction than children without CDAs. Notably, early childhood interventions also aim to positively affect children’s social-emotional development. Over 60 studies confirm the relationship between savings and educational

children’s social-emotional development; however, they do not find effects on children’s cognitive development measured by counting numbers, identifying colors, and recognizing letters. Given that this is the first study to explore the effects of CDAs on child development, more research is certainly needed.

²⁷ Assets and Education Initiative (AEDI), 2013; Here, college enrollment and graduation refers to any postsecondary education or training including certificate programs, vocational training, and two- and four-year institutions.

²⁸ Elliott & Lewis, 2013.

²⁹ Friedline, Elliott, & Chowa, 2013; Friedline, Elliott, & Nam, 2011.

³⁰ Friedline, Despard, & Chowa, in press; Friedline & Elliott, 2013.

³¹ Huang, Sherraden, Kim, & Clancy, 2014.

achievement.³² For instance, children ages 12 to 18 who have savings accounts in their own names with a portion of money designated for future schooling also score significantly higher on math achievement tests, suggesting a potential positive relationship between CDAs and educational achievement.³³ Their savings is also significantly related to the development of positive future expectations about their education. Children with savings are two times more likely to be enrolled in or to have graduated from college by the time they reach ages 17 to 23.³⁴ Thus, research evidence supports the potential effects of CDAs for improving children’s educational achievement from the very beginning through the end of their educational careers.³⁵

CDAs may also prepare children for their economic futures like establishing and maintaining relationships with mainstream banking institutions and diversifying their asset portfolios—potential indicators of economic stability. Approximately 33 studies confirm the benefits of children’s savings for their future economic outcomes.³⁶ Children are two times more likely to own savings accounts, two times more likely to own credit cards, and four times more likely to own stocks when they have savings accounts earlier in life, suggesting they may be able to use mainstream banking institutions and their services as opposed to predatory lending institutions like check cashing services.³⁷ These children also accumulate \$1,900 more in savings and \$5,025 more in liquid assets—money that can go a long way toward affording rent, groceries, car insurance, or

books for college.³⁸ Moreover, savings accounts almost always coincide with or precede the acquisition of and investments in money market, stock, and retirement accounts, indicating that CDAs are a gateway to asset diversification and accumulation.³⁹ Children with CDAs may eventually invest more money in more diverse portfolios. For example, a savings account contributes \$49.68 and stocks contribute \$329.50 to accumulated liquid assets, controlling for all relevant factors. The combination of stock and retirement accounts contributes the most to liquid asset accumulation—\$5,283.05. Thus, children with CDAs may experience better economic stability as they get older through their relationships with mainstream banking institutions, diverse asset portfolios, and accumulated assets.⁴⁰

Taken together, children with CDAs may experience early improvements in development and educational achievement that eventually translate into opportunities for educational and economic advancement as they grow older.

Taken together, children with CDAs may experience early improvements in development and educational

³² AEDI, 2013.

³³ Elliott, 2009.

³⁴ Elliott & Beverly, 2011.

³⁵ It should be noted that the findings on the relationships between CDAs and educational outcomes are mostly based on savings accounts measured in mainstream banking institutions and not CDAs as described in this paper. Though, recent research by Huang, Sherraden, Kim, and Clancy (2014) tests CDAs on social-emotional development. However, there is reason to believe that the effects of CDAs may be more pronounced on educational outcomes than accounts at mainstream banking institutions because CDAs are designed with education in mind.

³⁶ Friedline & Rauktis, 2014.

³⁷ Friedline & Elliott, 2013.

³⁸ Friedline & Song, 2013.

³⁹ Friedline, Johnson, & Hughes, 2014.

⁴⁰ It should be noted that the findings on the relationships between CDAs and economic outcomes are based on savings accounts measured in mainstream banking institutions and not CDAs as described in this paper. This means that findings from research and their implications for CDAs should be interpreted cautiously. However, there is reason to believe that the effects of CDAs on economic outcomes might be more pronounced than those from savings accounts at mainstream banking institutions. This is because CDAs are designed to be universally and automatically opened—so all children could potentially experience economic benefits—and to provide assistance with saving through incentives. Assistance with saving may mean that children with CDAs could accumulate more savings and liquid assets than what they do currently in mainstream banking institutions.

achievement that eventually translate into opportunities for educational and economic advancement as they grow older. Moreover, CDAs explicitly allow children and their families to make investments in their educational and economic advancement via saving. Research confirming these relationships bolsters the potential of CDAs as an effective intervention that can prepare children for advancement in the future and can narrow gaps before they become difficult and costly to reverse.

These effects are largely believed to take place when children, triggered by the psychological process of ownership over their CDAs, develop positive identities of themselves in the future and behave in ways that are congruent with those positive future identities.⁴¹ It is believed that CDAs may improve children’s short- and long-term educational and economic advancement in part by giving them “a stake in their futures” and empowering them to engage in present activities that are meaningful for achieving their desired future goals.⁴² In this way, CDAs may produce similar effects on educational and economic advancement generated by early childhood interventions. Even though families and children do not withdraw money to spend on specific, short-term activities from CDAs as they were originally conceived, research still finds positive effects on children’s short- and long-term educational and economic advancement shaped by their psychological and behavioral changes as a result of account ownership.⁴³ The fact that children are the owners and beneficiaries of their CDAs empowers them to imagine possibilities and to plan for their futures. If this is true, then the concept of ownership over CDAs may be more than just opening an account in a child’s name in which a parent saves on their child’s behalf. Ownership may mean that children believe their savings accounts belong to them.⁴⁴

⁴¹ Elliott, Destin, & Friedline, 2011.

⁴² AEDI, 2013; Elliott, 2012.

⁴³ AEDI, 2013; Huang, Sherraden, Kim, & Clancy, 2014.

⁴⁴ For young children, ownership may more accurately be stated as co-ownership between children and parents, particularly during an age when children lack the developmental capabilities to take complete ownership and control over their CDAs. For young children, CDAs might be

Developmental Theory of CDA Design

Two core principles relate to the potential effects of CDAs and therefore may be tied to CDA design: ownership and development. As aforementioned, children are the owners and beneficiaries of CDAs opened in their names and as such, designing CDAs with children’s ownership in mind may enhance effects on educational and economic advancement via their positive future identities. Along these lines, if children are the owners of their CDAs and ownership consists of thinking about and interacting with their CDAs, then it may be prudent to design CDAs to facilitate ownership in correspondence with their developmental capabilities. That is, children’s ownership over their CDAs may be facilitated differently as they grow up based on their achievement of developmental milestones like thinking abstractly, counting numbers, and using future-tense language.

Ownership

Imagine you have just been given a new assignment at work and you are in charge. You get to define the goals and objectives for the assignment, choose the staff who will assist you in carrying out these goals and objectives, and set deadlines for completion. Your supervisor requests regular updates, asks for your input, makes suggestions, and supports your progress; yet, as the person in charge, you can exercise agency and control over the assignment’s progression and ultimate path, seeing it through until the end. Now imagine you are in charge of that same assignment bestowed upon you by your supervisor. However, during regular updates with your supervisor, they change the goals and objectives that you defined for the assignment. Perhaps your supervisor also replaces some of the staff you chose to assist you with the assignment.⁴⁵ In the first scenario, you have a greater degree of autonomy

conceptualized as managed and supported by parents and owned by children.

⁴⁵ Micromanagement in the workplace has been found among other things to relate to dampened employee morale, engagement, and job satisfaction. See for example Cho and Poister (2013) or Leary, Green, Denson, Schoenfeld, Henley, and Langford (2013).

and can make decisions about your assignment. In the second scenario, you are essentially the subordinate carrying out the goals and objectives of your supervisor's assignment with little ownership over the end result.

Similarly, imagine the child who has been given the task of completing a school assignment—her reading homework. The reading assignment may be hard with big words and new ideas, but the child struggles through with minimal supports from her parent. She completes her assignment, proud of herself deciphering big words and learning new ideas. Now imagine the parent who, upon seeing how challenging the assignment is for their child or becoming impatient with their child's slow progress, completes the assignment on the child's behalf. In both scenarios the assignment has been completed; however, only in the first was the child able exercise agency and control over the outcome. These examples illustrate how ownership—operationalized by exercising agency and control—are bestowed upon and can play out in different aspects of our lives. Likewise, ownership can be applied to the economic aspects of our lives, including savings accounts.

Ownership refers to an individual's ability to exercise agency or control over objects or ideas.⁴⁶ A savings account can be thought of as both an object and an idea and as such, there are different processes over which ownership of an account may be established. In some instances, ownership is described as being bestowed upon and formalized through a legal process,⁴⁷ like owning a savings account. A legal document like bank paperwork filled out with a Social Security number ties account ownership to an individual and can be disputed in a court of law. This legal process likens account ownership to an object. Children are legal owners of savings accounts that have been opened in their names, for example. In other instances, ownership is described as a psychological process,⁴⁸ like feeling and perceiving that a savings account belongs to the owner even

if she is not the only one making deposits or decisions about investments. This psychological process likens account ownership to an idea. The legal and psychological processes of ownership may apply to savings accounts in children's names because they believe the accounts belong to them and are the beneficiaries of accumulated savings. Even though their parents may sometimes make decisions about the accounts, children remain the intended—and in most cases, the legal—beneficiaries of accumulated savings. In essence, children can be the owners of accounts supported and managed by parents. A child has agency to make decisions about the savings account in both examples.

Ownership may integrate savings accounts into the self, producing positive effects on children's educational and financial outcomes.

Ownership may integrate savings accounts into the self, producing positive effects on children's educational and financial outcomes.⁴⁹ The meaning children may assign to savings accounts and the interpretation of the meaning for their educational futures suggests savings accounts in children's names signal that saving is linked to future education.⁵⁰ This implies that saving is an important strategy to pay for college and that it is consistent with family and cultural norms. Moreover, ownership over savings accounts allows children to integrate the account as part of their selves,⁵¹ helping them to develop the identity of being college-bound. In this example, the meaning children ascribe to savings accounts in their names is as an effective tool for saving and achieving their desired outcomes, in turn reinforcing a college-bound identity and making college enrollment and graduation more likely. Following

⁴⁶ Beggan & Brown, 1994.

⁴⁷ Etzioni, 1991.

⁴⁸ Kalish & Anderson, 2011; Furby, 1980; Van Dyne & Pierce, 2004.

⁴⁹ Elliott & Sherraden, 2013.

⁵⁰ Elliott & Sherraden, 2013.

⁵¹ Belk, 1988; Elliott, Friedline, & Kakoti, 2013.

this logic, children might not ascribe this meaning to CDAs should they not perceive themselves as the account owners or beneficiaries; likewise, they might not experience the educational effects of a college-bound identity. The same may be true for effects on economic outcomes.⁵² Accounts in children's names may suggest to children that they can use their accounts to shape their economic futures and in the process instill in children an identity as a saver.

When savings accounts are not in children's names, children might not associate savings accounts with their own aims or perceive them to be an extension of the self, losing some power to shape children's attitudes and expectations about the likelihood of outcomes.⁵³ From this perspective, the proximity of the savings account to the child may help them psychologically associate ownership.⁵⁴ For example, when asked to identify the owner of a toy, children associate ownership with possession. The first person to touch or play with the toy—the person in closest proximity to the toy and the person to interact with it before any others—is identified as the owner significantly more often. Children infer ownership based on possession and can do so at early ages, often by employing this first possession heuristic.⁵⁵ Children as young as two can infer ownership to tangible objects; by age five or six, they can infer ownership to intangible objects like ideas and future identities.⁵⁶ What this suggests is that children—especially young children—may infer ownership of savings accounts to themselves if accounts are in their names and if children are able to interact with their accounts, simultaneously linking intangible ideas and future identities to the tangible nature of accounts. Otherwise, children may infer ownership to their parents. This might explain why accounts in children's names produce effects on outcomes that are distinct from accounts in which parents save on their children's behalf.⁵⁷

In the aforementioned scenario, the child completing her reading homework derives ownership from having exercised agency and control over the assignment. While parental guidance, encouragement, and support are expected via helping to sound out big words or define new ideas, the parent's completion of the homework assignment on their child's behalf is not.⁵⁸ This same understanding of ownership can be applied to saving. Just as parents might avoid doing their children's homework so that their children could reap the benefits of having owned their hard work, parents might avoid doing their children's saving. Of course, parental guidance, encouragement, and support with saving are expected. Parents may remind children about their savings accounts, take them to the bank to make deposits, and give them money to make deposits. However, children are capable of exercising agency and control over their savings accounts in ways similar to the agency and control they exercise over their reading homework, and should be allowed to do so. Children can impact and use their savings accounts with facilitation from and support of parents, particularly early in life before children develop the capability and resources to save on their own.

Development

Children may acquire different abilities to exercise agency and control over their CDAs as they grow up, passing through critical milestones in development. Take for example the two-year-old child who passively goes on errands to the bank with her parent to make deposits into her savings account, compared to the five-year-old child who initiates the setting aside of her birthday or holiday money and making her own deposits into her savings account. The two-year-old child may not be able to verbalize how or why the parent makes deposits into the savings account; however, the five-year-old child has developed abilities in cognition and language that facilitate her verbal

⁵² Friedline, 2014; Friedline & Showalter, 2013.

⁵³ Elliott, Friedline, & Kakoti, 2013.

⁵⁴ Beggan & Brown, 1994; Friedman, 2008.

⁵⁵ Friedman, 2008; Friedman & Neary, 2008.

⁵⁶ Fasig, 2000; Olson & Shaw, 2011.

⁵⁷ Friedline, 2014; Friedline & Showalter, 2013.

⁵⁸ Though, we recognize that well-intentioned parents from all levels of the socio-economic spectrum may surrender to filling in the assignment answers themselves after having seen their children struggle with difficult homework.

explanations of savings accounts and deposits.⁵⁹ While the child may initially have a passive role in saving, she may eventually be able to take an active role with the support of her parent that affords her greater ability to exercise agency. Developmental changes also underlie and facilitate this transition from passive to active roles, preparing children to own their accounts. Therefore, it may be helpful to understand how children become developmentally capable of owning their savings accounts—particularly in early childhood around the age of five or six that coincides with kindergarten enrollment.

Just as parents might avoid doing their children’s homework so that their children could reap the benefits of having owned their hard work, parents might avoid doing their children’s saving.

Early childhood—the years leading up to and encompassing kindergarten enrollment at age five or six—is a time of extensive developmental change and the milestones reached at this age serve as a foundation for milestones achieved in mid and late childhood. At this young age, children think about banks as a place for storage or may even consider saving in a bank as synonymous with losing money.⁶⁰ Children age five or six can employ saving strategies like not spending any money or alternating between spending and saving, though their strategies are less sophisticated and are met with success less often than their older counterparts—suggesting support from parents may be warranted at this early age. Young children’s nebulous understanding of the bank or saving behaviors—abstract concepts and behaviors with which they have few

⁵⁹ Even if young children’s verbal explanations about savings accounts, deposits, and banks are inaccurate or “fuzzy,” these children still have the cognitive and linguistic developmental abilities to express their newly forming ideas and understandings.

⁶⁰ Jahoda & France, 1979; Sonuga-Barke & Webley, 1993.

direct and active experiences—may be due in part to their limited developmental capabilities. That is, young children have a hard time integrating separate and abstract economic concepts because their minds are still growing and changing.

This should not be taken to mean that young children are not knowledgeable enough or that they are developmentally incapable of saving or of owning their accounts.⁶¹ Early opportunities to save may make use of an important time in children’s development by influencing them when they may be most impressionable.⁶² In fact, children may make notable developmental gains in economic knowledge and behavior and may move through these milestones more quickly when they have early experiences with saving.⁶³ For instance, the *I Can Save* savings program included children in kindergarten and first grade at approximately age five or six.⁶⁴ Children in the *I Can Save* treatment group received savings accounts, incentives to save, and financial education.⁶⁵ These children saved an average of \$8 per month over a two-year period with the support of their parents. If children and parents saved this amount each month beginning in kindergarten and continuing until they graduated high school (a 13-year period), their savings could accumulate to \$1,248 before interest. Children are developmentally capable of exercising ownership over accounts as a saving strategy if given supports and early opportunities.

Children at age five or six also make extensive gains in cognition and language evidenced by their ability to store and retrieve information and provide verbal explanations. For example, children can focus on single aspects of a ball like its color or shape, though they have difficulty focusing

⁶¹ Elliott, M.S. Sherraden, Johnson, & Guo, 2010; M.S. Sherraden, Peters, Wagner, Guo, & Clancy, 2013.

⁶² See Bruck and Ceci (1999) and Scullin and Ceci (2001) for more information about the impressionability of young children.

⁶³ Ng 1983, 1985.

⁶⁴ Elliott, M.S. Sherraden, et al., 2010; M.S. Sherraden, Johnson, Elliott, Porterfield, & Rainford, 2007.

⁶⁵ M.S. Sherraden, Johnson, et al., 2007.

on both aspects simultaneously.⁶⁶ A single focus on the ball as red or round—rather than considering color and shape simultaneously—is evidence that children have mental capacity for storing information, though this capacity is limited.⁶⁷ Children at age five can use their memory to store and retrieve the necessary information to carry out *simple* behaviors to complete tasks. Thus, with the support of parents, children can carry out simple behaviors like making deposits into their CDAs; however, calculating their future account balance based on current deposit and interest rates may be too difficult a behavior at this age.

Children are developmentally capable of exercising ownership over accounts as a saving strategy if given supports and early opportunities.

Young children also begin to use more complex language at age five or six.⁶⁸ Children develop an emergent ability to use hypothetical and tense speech at the age of five or six, meaning they can accurately use words like “some” or “all” to describe scenarios (“some” children play with the red ball).⁶⁹ Children age four or five are also capable of using tenses to differentiate the past and future from the present (some children “were playing” with the ball yesterday).⁷⁰ When asked to locate events like birthdays and holidays on a picture (e.g., Will it happen very soon, a very long time from now, or an in-between amount of time from now?), children at age five locate events more accurately than children at age four.⁷¹ With regards to their CDAs, children may be able to verbalize such hypothetical thoughts as, “I

⁶⁶ Zelazo, 2004.

⁶⁷ Zelazo, 2004.

⁶⁸ Harner, 1976; Kuczaj & Daly, 1979; Rice, Wexler, & Hershberger, 1998; Wagner, 2001.

⁶⁹ Harner, 1976; Kuczaj & Daly, 1979; Rice, Wexler, & Hershberger, 1998.

⁷⁰ Friedman, 2000, 2002, 2005; Friedman & Kemp, 1998; Wagner, 2001.

⁷¹ Friedman, 2000.

will have more money if I save,” or “The savings I deposited yesterday can help pay for my college in the future.”

By early childhood, children can already assign ownership to their accounts, use language to articulate the importance of saving, produce future tense (relevant since saving is thought of as a future-oriented behavior), and carry out simple behaviors like practicing emergent saving strategies. This suggests CDAs opened before or concurrently with early childhood at age five or six may become integrated as part of children’s development.

There are two reasons why this would be an advantageous approach. First, if CDAs are truly an early childhood intervention, then their introduction should occur concurrently with other early childhood interventions and precede the development and educational achievement that these interventions hope to affect. Second, when children are able to develop concurrently with CDA ownership, they can engage in experiential learning and apply their economic knowledge and behavior, cognitive, and language development to their CDAs. In other words, the child with a CDA whose parent has been talking to her about saving and taking her on trips to the bank since birth likely has developed the language and vocabulary to explain saving. She may also be able to comprehend the abstract, intangible characteristics of her CDA—depositing money into her CDA is saving for her future and is not the same as losing money (even though the money “disappears” into her account).

When combined, CDAs and early childhood interventions may be complementary and powerful levers for helping all children reach their full potential.

The child without a CDA may not have these benefits of experiential learning. Concepts from ownership and

development are useful for forming a comprehensive understanding of the potential policy impact of CDAs on children. Given what we now know, we may need to design our CDA policies in ways that take children’s ownership and development into account.

Policy Design Considerations

CDAs and early childhood interventions have similar aims of preparing children for educational and economic success by making short- and long-term investments and focusing on children from poor families. They also produce similar effects on educational and economic advancement across the life course. When combined, CDAs and early childhood interventions may be complementary and powerful levers for helping all children reach their full potential.

Some programs are already beginning to recognize CDAs as an early childhood intervention, making their pairing with existing interventions explicit. These programs include the well-known Kindergarten to College (K2C) savings program in San Francisco that began in 2010 and the more recent savings program in Cuyahoga County, Ohio that began in 2013. Maine’s Harold Alfond College Challenge recently announced the automatic opening of 529 college savings plans for all children in the state at birth, making explicit the link between saving and education.⁷² Of particular interest is the Mississippi College Savings Account (MS CSA) Program that was implemented in 2011 in cooperation with Hope Credit Union and local early childhood development centers.⁷³ Children and their families enrolled in early childhood development and Head Start centers had the opportunity to open savings accounts to invest in future college education. Children received an initial \$50 deposit into their accounts and dollar-for-dollar matches for any additional monies deposited. Financial

education and field trips to banks were among some of the activities incorporated into the curriculum.

There are important considerations for CDA policy design based on what we know about their role as an early childhood intervention and relationships with children’s ownership and development. If CDAs are to truly be considered an early childhood intervention and an investment in children’s futures, then they may need to be adapted to facilitate children’s ownership and to coincide with children’s developmental milestones. Given that CDAs are to be owned by children and intended to span developmental milestones ranging from birth to adulthood, it is important to know how ownership and development might complement CDAs. This speaks to the best strategies for children’s savings and successful CDA implementation and is especially important if children are to own and interact with their CDAs. Thus, policy considerations emphasize how features of CDAs could be designed based on children’s ownership and development.

If CDAs are to truly be considered an early childhood intervention and an investment in children’s futures, then they may need to be adapted to facilitate children’s ownership and to coincide with children’s developmental milestones.

These policy considerations are primarily geared toward CDAs introduced in early childhood—at the same time as or concurrently with existing early childhood interventions—and range from opening accounts in children’s names to adapting to meet changing saving needs across the life course. However, the policy considerations drawn here are preliminary given limited research on the relationships between CDAs, ownership, and development, and additional research is needed.

⁷² Clancy & Sherraden, 2014.

⁷³ See the following websites for more information: <http://www.hopecu.org/index.php/news/press-releases/366-mississippi-children-save-for-college-with-pilot-program>; and http://cfed.org/blog/inclusiveeconomy/mississippi_college_savings_account_program_launch/.

Open CDAs in Children’s Names to Cue Their Ownership Over Accounts

Savings accounts opened in children’s names may signal ownership based on the first possession heuristic. This may be crucial since children attribute ownership to the person who first possessed an object and children express preferences for objects that they own.⁷⁴ Opening CDAs in children’s names can signal that they are the owners of the accounts and beneficiaries of accumulated savings—even if a parent helps them save or makes deposits on their behalf. Bank statements and other communications directed to children that explicitly list them as owners may facilitate the designation of ownership. This designation is important because children may think about and interact differently with accounts that they own, gaining knowledge about the world of money and finances and practice with using savings to plan for the future—and becoming financially capable along the way.⁷⁵ In addition, evidence suggests children may innately and mentally designate their savings for future goals like college attendance;⁷⁶ thus, children attach ownership to their accounts and to their future identity as a college student, perhaps making their improved educational achievement and college attendance more likely.⁷⁷

Leverage Language to Message and Market CDAs, Making the Future Feel More Proximal

Another consideration is that CDAs may leverage children’s language development by making the future feel more proximal and incorporating future oriented language. Children develop an emergent ability to use tenses and hypothetical speech at the age of five or six.⁷⁸ This means that they do not yet make consistent distinctions between present and future. By its very nature, saving is a future oriented behavior. Because language is connected to attitude and behavior in complex ways, taking advantage of

how children talk about time in the context of saving may help to amplify asset accumulation. Research has found that speakers of languages that do not require distinct tenses for present and future events save more (e.g., “she *goes* to school tomorrow” versus “she *will go* to school tomorrow”).⁷⁹ Speakers of languages like English that require distinct tenses might develop beliefs about the timing of events, making them less likely to save or to put off saving until tomorrow.⁸⁰ In a sense, young children’s underdeveloped use of tense may serve to predispose them to save now for the future. A child at age five who cannot yet believe or verbalize what it means for college to be 12 years away might also not grasp why she shouldn’t have immediacy in saving for that future expense. In contrast, the parent who knows college is 12 years away may put off saving.

Along these lines, CDAs should be introduced as a way to practice future oriented thoughts and behaviors in the present, using future tense language to emphasize goals. One way to manipulate children’s linguistic predisposition could be to link the future to the present, making it feel more proximal. This idea is consistent with making college feel close rather than far away to keep children’s college-bound identities at the top of mind.⁸¹ Phrases like, “The future is now” might use language to express the urgency of future saving goals.

Allow CDAs to Facilitate Saving Toward Short- and Long-Term Goals

CDAs by their very nature allow children to act out “the future is now.” This is because CDAs are opened in early childhood and geared in part for saving toward college. Even though children may initially only comprehend short-term time order of events and saving goals, their CDAs are still linked to long-term saving goals. A design that allows saving for short- and long-term expenses lets children practice saving for goals to be achieved in the coming weeks

⁷⁴ Friedman, 2000.

⁷⁵ M.S. Sherraden, 2013.

⁷⁶ Friedline, Elliott, & Nam, 2012.

⁷⁷ AEDI, 2013.

⁷⁸ Harner, 1976; Rice, Wexler, & Hershberger, 1998; Wagner, 2001.

⁷⁹ Chen, 2013.

⁸⁰ Chen, 2013.

⁸¹ AEDI, 2013.

and months and to do so in concert with their development; meanwhile, the design encourages children to plan for and think about saving in the present for expenses that correlate with future identities to be realized in the coming years. The benefits of such a design are many. Children can work toward and realize short-term saving goals, perhaps giving them confidence in their efforts for long-term saving and making their investments into savings accounts more likely. Early successes with saving for short-term goals give children quick and timely feedback about their behaviors, perhaps helping them to internalize saving as a realistic strategy for achieving long-term goals. Supporting children as they save for short- and long-term expenses also recognizes hierarchically-arranged needs for which they might save (saving for a new school uniform and saving for college).⁸² These needs transition as children advance through the life course. Eventually, saving for college may transition to saving for retirement.

Early successes with saving for short-term goals give children quick and timely feedback about their behaviors, perhaps helping them to internalize saving as a realistic strategy for achieving long-term goals.

A CDA design that allows for short- and long-term expenses also serves the purpose of helping children and families to make short-term economic investments when these investments may be needed across children’s educational careers. For instance, a child may save for a book, a trip to the museum, or even childcare with a CDA design that allows withdrawals for short-term goals. Such economic investments facilitated by the allowance of saving for short-term goals may help nurture her development and educational achievement—investments in which her family might not otherwise be able to afford.

⁸² Xiao & Anderson, 1997; Xiao & Noring, 1994.

Integrate Desired Rules or Norms about Saving Into CDAs as Part of Their Messaging and Marketing

Children have trouble switching perspectives after first being given a rule. While research has applied this to tasks that require children to switch between identifying the shapes and colors of an object, findings may also apply to abstract rules about saving. For instance, if some of the first rules young children learn about saving are that “My family does not save,” or “Banks cannot be trusted,” then it is logical to consider that this is the rule children are primed to follow. Likewise, children may learn rules like “Saving is good,” or “The bank is a safe place to put my money,” or “Saving can help me achieve my goals.” Until children develop the ability to reevaluate these rules from different perspectives or to receive information that contradicts these rules, children’s interpretations of their CDAs may be based in part on these first rules. Thus, the importance of incorporating desired rules and norms about saving into the messaging of CDAs shouldn’t be understated.

Incorporate Tangible, Observable Characteristics to Make Abstract CDAs Comprehensible to Young Children

Children develop increased cognitive ability to grasp abstract concepts and to consider objects from multiple aspects at approximately age five.⁸³ Savings accounts in and of themselves are abstract—they do not have a color or shape by which children can sort their dimensions. While they retain other qualities, such as being a place to deposit and store money, young children struggle to understand that depositing money into savings accounts is not the same as losing their money. This is not to suggest that young children cannot interact with a savings account; simply that CDAs may need to acquire some tangible or observable characteristics that facilitate children’s understanding of something so abstract. Giving children cues with observable characteristics, like a deposit slip with colors and pictures to represent their saving, may also help young children understand the abstract nature of their

⁸³ Zelazo, 2004.

savings accounts until they develop the ability for abstract thought. Piggy banks are often used to symbolize saving—an observable characteristic that could serve as a savings account mascot of sorts.

Incorporate Cues into CDAs that Can Prime Saving Behaviors

With limited capacity to process information, children rely on external cues from which their knowledge and behaviors can be primed. Default options on savings accounts like direct payroll deposit or automated reminders about saving prime knowledge and behaviors for adults.⁸⁴ However, these default options are not necessarily productive for children given the informal ways they earn income, their reliance on their families to provide environmental cues, and the confines of their cognitive-psychological development at young ages.⁸⁵ Children may need different cues to prime their saving behaviors, making it easier for them to store and retrieve information about saving. For instance, a child may remember making a deposit into her savings account last week (or even a few hours earlier); however, she may be unable to produce the amount spontaneously when asked or to indicate how much more she needs to save to achieve her goal. A visual cue like a colorful deposit slip with a picture of a thermometer showing how much she has saved toward her goal could serve as a cue that primes her knowledge about her savings account. Designating every Monday as “bank day” at her school, for example, could serve as a cue that primes her saving behaviors and facilitates regular account deposits.

Design CDAs to Grow with Children’s Saving Needs across the Life Course

CDAs should meet children where they are developmentally and grow with children’s saving needs over time. An account structure that meets children’s developmental needs (especially early in life) and adapts to their saving needs makes logical sense if children are to use

and maximize their CDAs across the life course.⁸⁶ If a CDA is opened at birth, it is logical to consider that educational expenses like a computer or uniform for school or college tuition are some of the primary goals for which children are saving. After having achieved goals like graduating from high school or earning a college degree, saving goals may transition to paying down student loans, acquiring stable housing, and planning for retirement. This adaptation allows CDAs to facilitate educational and economic advancement across the life course. Initially, it may sound impractical to develop CDAs that adapt as children grow and remain scalable at the same time. However, this concept is not much different from 401(k) and other retirement plans—products well-integrated into the public sphere and available from existing banking institutions—in which investments are made based on age to retirement and are adjusted as the account holder nears retirement. For instance, a person opening a retirement account at age 25 may take a higher-risk investment given that she has about 40 years to weather stock market fluctuations. Higher-risk investments can transition to lower-risk investments as a person nears retirement so as to not expose their investments to stock fluctuations; in some cases, these transitions can occur automatically. 529 college savings plans can work this way, too, with the risk aligned according to children’s ages and adjusted based on expectations about and proximity to postsecondary education.

Another example of an adaptable design comes from Singapore’s rolling savings accounts, the first of which opens automatically for all children at age six.⁸⁷ Edusave accounts are available for children ages six to 16 and are used to maximize educational opportunities during primary

⁸⁶ Notably, an adaptable design could be incorporated into a national model either using the Thrift Savings Program or 529 college savings plans. An adaptable design does not so much represent the specific platform or mechanism for implementing CDAs; rather, an adaptable design suggests how the Thrift Savings Plan or 529 college savings plans might be designed to incorporate adaptable features.

⁸⁷ Loke & M. Sherraden, 2009.

⁸⁴ Beverly, M. Sherraden, Cramer, et al., 2008.

⁸⁵ Wheeler-Brooks & Scanlon, 2009; Spelke, 2000.

school years.⁸⁸ Funded in part with annual contributions from the government, children and their families use savings accumulated in Edusave accounts for short-term educational expenses like school supplies. When children reach age 17, any remaining funds roll into their Post-Secondary Education Account, where savings can be used toward obtaining a college degree or other type of post-secondary training. Funds that remain in their Post-Secondary Education Account at age 30 roll into a Central Provident Fund Account, where savings can be used toward housing, healthcare, and retirement needs. This adaptable design provides children and their families with one savings account at a time that is designed for saving toward expenses common to a specific stage of development; as children transition through stages of development, any remaining savings rolls into the next account for which they save toward expenses common to their next stage of development. Thus, Singapore’s rolling savings accounts uses a product that is already readily available from existing banking institutions and demonstrates how CDAs might adapt to saving needs across the life course. Moreover, this adaptable design facilitates economic advancement across the life course.

Conclusions

Given that the effects of poverty emerge at such a young age and have such detrimental effects on children’s life chances via educational and economic advancement, early and powerful interventions are needed. CDAs opened at birth or shortly thereafter—particularly when they are opened in tandem with and leverage other early childhood interventions—may help to combat the effects of poverty and help children to reach their full potential.

It could be asked why policies like CDAs are needed to invest in children—aren’t families responsible for these early investments? And aren’t public schools already responsible for closing gaps in development and educational achievement and promoting equality of opportunity for educational and economic advancement,

⁸⁸ Loke & M. Sherraden, 2009.

starting at kindergarten enrollment? Conversations about early childhood interventions would likely not be needed if families and schools were equipped to make early investments, close gaps, and provide equality of opportunity. In other words, there would be no developmental, educational achievement, or economic related reasons to intervene.

Nonetheless, gaps emerge early in life and widen across time despite families’ and schools’ best efforts. Lower-income families may struggle to make the same early investments in their children as higher-income or financially secure families, meaning that children from families in poverty may not start down paths with opportunities for educational and economic success. Schools, even those with the best resources and latest technologies, still struggle to close gaps that have developed over and become rooted in generations due to unjust economic, social, historical, and political landscapes.⁸⁹ Moreover, patterns in school funding parallel the patterns of family poverty, suggesting that some schools are better capacitated than others to address children’s gaps.⁹⁰ Relying on families and schools as the primary interventions for children exacerbates the gaps given that they are both so unequally capacitated.

Early childhood interventions emerged precisely to ameliorate the burdens placed on families and schools to reduce gaps in development and educational achievement and to maximize the benefits to society that could be generated by reduced gaps.⁹¹ Investments in early childhood interventions pay off not just for individuals, but for societies, as well.⁹² As such, early childhood interventions that invest in young children are vital for our nation. CDAs are one piece of an early childhood intervention strategy that provide families with an

⁸⁹ Evans, 2005; Ladson-Billings, 2006.

⁹⁰ Downey, von Hippel, & Broh, 2004; Duncan & Murnane, 2011; Kozol, 1991.

⁹¹ National Dissemination Center for Children with Disabilities, 2012; Shonkoff & Meisels, 1990.

⁹² Heckman, 2006; Heckman & Raut, 2013.

opportunity to make economic investments in their children, leverage and maintain children's early improvements in development and educational achievement, and promote economic advancement. Taken together, CDAs and early childhood interventions have the potential to redress unequal landscapes across future generations by giving children living in poverty opportunities to excel academically and economically beyond the limitations imposed by the circumstances of where they started.

Terri Friedline is an Assistant Professor at the University of Kansas' School of Social Welfare, a Faculty Associate with the Assets and Education Initiative, and a Research Fellow with the Asset Building Program. Nik Schuetz is a graduate student at the University of Kansas' School of Social Welfare.

References

- Aber, J. L., Bennett, N., Conley, D., & Li, J. (1997). The effects of poverty on child health and development. *Annual Review of Public Health, 18*, 463-483.
- Assets and Education Initiative. (2013). Building expectations, delivering results: Asset-based financial aid and the future of higher education. In W. Elliott (Ed.), *Biannual report on the assets and education field*. Lawrence, KS: University of Kansas, School of Social Welfare, Assets and Education Initiative (AEDI).
- Bali, V., & Alvarez, M. (2004). The race gap in student achievement scores: Longitudinal evidence from a racially diverse school district. *Policy Studies Journal, 32*(2), 393-415.
- Beggan, J., & Brown, E. (1994). Association as a psychological justification for ownership. *The Journal of Psychology, 128*(4), 365-380.
- Belk, R. W. (1988). Possessions and the extended self. *The Journal of Consumer Research, 15*(2), 139-168.
- Beverly, S., Sherraden, M., Cramer, R., Williams Shanks, T., Nam, Y., & Zhan, M. (2008). Determinants of asset holdings. In S.-M. McKernan & M. Sherraden (Eds.), *Asset building and low-income families*. Washington, D.C.: The Urban Institute Press.
- Borland, J., & Wright, L. (1994). Identifying young, potentially gifted, economically disadvantaged students. *Gifted Child Quarterly, 38*(4), 164-171.
- Brooks-Gunn, J., & Duncan, G. (1997). The effects of poverty on children. *The Future of Children, 7*(2), 55-71.
- Bruck, M., & Ceci, S. (1999). The suggestibility of children's memory. *Annual Review of Psychology, 50*, 419-439.
- Burger, K. (2010). How does early childhood care and education affect cognitive development? An international review of the effects of early interventions for children from different social backgrounds. *Early Childhood Research Quarterly, 25*(2), 140-165.
- Campbell, F., Conti, G., Heckman, J., Moon, S.H., Pinto, R., Pungello, E., & Pan, Y. (2014). Early childhood investments substantially boost adult health. *Science, 343*(6178), 1478-1485.
- Campbell, F., Pungello, E., Miller-Johnson, S., Burchinal, M., & Ramey, C. (2001). The development of cognitive and academic abilities: Growth curves from an early childhood educational experiment. *Developmental Psychology, 37*(2), 231-242.
- Chen, M. K. (2013). The effect of language on economic behavior: Evidence from savings rates, health behaviors, and retirement assets. *American Economic Review, 103*(2), 690-731.
- Clancy, M., & Sherraden, M. (2014). *Automatic deposits for all at birth: Maine's Harold Alfond College Challenge* (CSD Policy Report 14-05). St. Louis, MO: Washington University, Center for Social Development.
- Cho, Y. J., & Poister, T. (2013). Human resource management practices and trust in public organizations. *Public Management Review, 15*(6), 816-838.
- Chu, A. (2013). *The impact of the sequester on communities across America*. Washington, DC: Center for American Progress.

-
- Cramer, R. (2010). The big lift: Federal policy efforts to create Child Development Accounts. *Children and Youth Services Review, 32*(11), 1538-1543.
- Cramer, R., Black, R., & King, J. (2014). *Children's savings accounts: Research, practice, and implications for policy design*. Washington, DC: New America Foundation.
- Cramer, R., & Newville, D. (2009). *Children's savings accounts: The case for creating a lifelong savings platform at birth as a foundation for a "save-and-invest" economy*. Washington, DC: New America Foundation.
- Currie, J. (2001). Early childhood education programs. *The Journal of Economic Perspectives, 15*(2), 213-238
- Downey, D., von Hippel, P., & Broh, B. (2004). Are schools the great equalizer? Cognitive inequality during the summer months and school year. *American Sociological Review, 69*(5), 613-635.
- Duncan, G., & Murnane, R. (2011). *Whither opportunity? Rising inequality, schools, and children's life chances*. New York, NY: Russell Sage Foundation.
- Duncan, G., Yeung, W. J., Brooks-Gunn, J., & Smith, J. (1998). How much does childhood poverty affect the life chances of children? *American Sociological Review, 63*(3), 406-423.
- Elliott, W. (2009). Children's college aspirations and expectations: The potential role of children's development accounts (CDAs). *Children and Youth Services Review, 31*, 274-283.
- Elliott, W. (2012). *Why policy makers should care about children's savings* (Creating a Financial Stake in College, Report I). Washington, DC: New America Foundation.
- Elliott, W., & Beverly, S. (2011). Staying on course: The effects of savings and assets on the college progress of young adults. *American Journal of Education, 117*(3), 343-374.
- Elliott, W., Destin, M., & Friedline, T. (2011). Taking stock of ten years of research on the relationship between assets and children's educational outcomes: Implications for theory, policy, and intervention. *Children and Youth Services Review, 33*(11), 2312-2328.
- Elliott, W., Friedline, T., & Kakoti, S. (2013). *How CDAs facilitate saving and asset accumulation*. Lawrence, KS: University of Kansas, School of Social Welfare, Assets and Education Initiative.
- Elliott, W., Jung, H., & Friedline, T. (2010). Math achievement and children's savings: Implications for child development accounts. *Journal of Family and Economic Issues, 31*(2), 171-184.
- Elliott, W., & Lewis, M. (2013). *Student loans are widening the wealth gap: Time to focus on equity*. Lawrence, KS: University of Kansas, School of Social Welfare, Assets and Education Initiative (AEDI).
- Elliott, W., & Sherraden, M. S. (2013). An institutional facilitation model of CDA effects: Changing the way children think about college. In W. Elliott (Ed.), *Biannual report on the assets and education field* (pp. 30-49). Lawrence, KS: University of Kansas, School of Social Welfare, Assets and Education Initiative.
- Elliott, W., Sherraden, M. S., Johnson, L., & Guo, B. (2010). Young children's perceptions of college and saving: Potential role of child development accounts. *Children and Youth Services Review, 32*(11), 1577-1584.
- Etzioni, A. (1991). The socio-economics of property. In F. W. Rudmin (Ed.), *To have possessions: a handbook on ownership and property. Journal of Social Behavior and Personality, 6*(6), 465-468.

-
- Evans, R. (2005). Reframing the achievement gap. *The Phi Delta Kappan*, 86(8), 582-589.
- Farah, M., Shera, D., Savage, J., Betancourt, L., Gianetta, J., Brodsky, N., Malmud, E., & Hurt, H. (2006). Childhood poverty: Specific associations with neurocognitive development. *Brain Development*, 1110(2006), 116-174.
- Fasig, L. (2000). Toddlers' understanding of ownership: Implications for self-concept development. *Social Development*, 9, 370-382.
- Friedline, T. (2014). The independent effects of savings accounts in children's names on their savings outcomes in young adulthood. *Journal of Financial Counseling and Planning*.
- Friedline, T., Despard, M., & Chowa, G. (in press). Preventive policy strategy for banking the unbanked: Savings accounts for teenagers? *Journal of Poverty*.
- Friedline, T., & Elliott, W. (2013). Connections with banking institutions and diverse asset portfolios in young adulthood: Children as potential future investors. *Children and Youth Services Review*, 35(6), 994-1006.
- Friedline, T., Elliott, W., & Chowa, G. (2013). Testing an asset-building approach for young people: Early access to savings predicts later savings. *Economics of Education Review, Special Issue: Assets & Educational Attainment: Theory and Evidence*, 33, 31-51.
- Friedline, T., Elliott, W., & Nam, I. (2011). Predicting savings from adolescence to young adulthood: A propensity score approach. *Journal of the Society for Social Work and Research*, 2(1), 1-22.
- Friedline, T., Elliott, W., & Nam, I. (2012). Predicting savings and mental accounting among adolescents: The case of college. *Children and Youth Services Review*, 34(9), 1884-1895.
- Friedline, T., Johnson, P., & Hughes, R. (2014). *Toward healthy balance sheets: The role of a savings account for young adults' asset diversification and accumulation*. St. Louis, MO: The Federal Reserve Bank of St. Louis.
- Friedline, T., & Rautkis, M. (2014). *Young people are the front lines of financial inclusion: A review of forty-five years of research*. Lawrence, KS: University of Kansas School of Social Welfare.
- Friedline, T., & Showalter, K. (2013). *Do savings accounts in children's names produce independent effects on their savings outcomes in young adulthood by income level?* Lawrence, KS: University of Kansas School of Social Welfare.
- Friedline, T., & Song, H. (2013). Accumulating assets, debts in young adulthood: Children as potential future investors. *Children and Youth Services Review*, 35(9), 1486-1502.
- Friedman, O. (2008). First possession: An assumption giving inferences about who owns what. *Psychonomic Bulletin & Review*, 15(2), 290-295.
- Friedman, O., & Neary, K. (2008). Determining who owns what: Do children infer ownership from first possession? *Cognition*, 107(3), 829-849.
- Friedman, W. (2000). The development of children's knowledge of the times of future events. *Child Development*, 71(4), 913-932.
- Friedman, W. (2002). Children's knowledge of the future distances of daily activities and annual events. *Journal of Cognition and Development*, 3(2002), 333-356.

-
- Friedman, W. (2005). Developmental and cognitive perspectives on humans' sense of the times of past and future events. *Learning and Motivation, 36*, 145-158.
- Friedman, W., & Kemp, S. (1998). The effects of elapsed time and retrieval on young children's judgments of the temporal distances of past events. *Cognitive Development, 13*(1998), 335-367.
- Furby, L. (1980). The origins and early development of possessive behavior. *Political Psychology, 2*, 30-42.
- Gray, K., Clancy, M., Sherraden, M. S., Wagner, K., & Miller-Cribbs, J. (2012). *Interviews with mothers of young children in the SEED for Oklahoma Kids college savings experiment* (CSD Research Report No. 12-53). St. Louis, MO: Washington University, Center for Social Development.
- Harner, L. (1976). Children's understanding of linguistic reference to past and future. *Journal of Psycholinguistic Research, 5*(1), 65-84.
- Heckman, J. (2006). Skill formation and the economics of investing in disadvantaged children. *Science, 30*(312), 1900-1902.
- Heckman, J., Moon, S., Pinto, R., Savelyev, P., & Yavitz, A. (2010). The rate of return to the HighScope Perry Preschool Program. *Journal of Public Economics, 94*(1-2), 114-128.
- Heckman, J., & Raut, L. (2013). *Intergenerational long term effects of preschool: Structural estimates from a discrete dynamic programming model* (NBER Working Paper No. 19077). Cambridge, MA: National Bureau of Economic Research.
- Huang, J., Sherraden, M., Kim, Y., & Clancy, M. (2014). Effects of Child Development Accounts on early social-emotional development: An experimental test. *JAMA Pediatrics*.
- Jahoda, G., & France, A. (1979). The construction of economic reality by some Glaswegian children. *European Journal of Social Psychology, 9*, 115-127.
- Kalish, C., & Anderson, C. (2011). Ownership as a social status. *New Directions for Child and Adolescent Development, 2011*(132), 65-77.
- Kozol, J. (1991). *Savage inequalities: Children in America's schools*. New York, NY: Crown Publishers Inc.
- Kristof, N. (2013, November 9). Oklahoma! Where the kids learn early. *NY Times*.
- Kuczaj II, S., & Daly, M. (1979). The development of hypothetical reference in the speech of young children. *Journal of Child Language, 6*(3), 563-579.
- Ladson-Billings, G. (2006). From the achievement gap to the education debt: Understanding achievement in US schools. *Educational Researcher, 35*(7), 3-12.
- Leary, T., Green, R., Denson, K., Schoenfeld, G., Henley, T., & Hal, L. (2013). The relationship among dysfunctional leadership dispositions, employee engagement, job satisfaction, and burnout. *The Psychologist-Manager Journal, 16*(2), 112-130.
- Leventhal, T., & Newman, S. (2010). Housing and child development. *Children and Youth Services Review, 32*(9), 1165-1174.

Loke, V., & Sherraden, M. (2009). Building assets from birth: a global comparison of Child Development Account policies. *International Journal of Social Work, 18*(2), 119-129.

Love, J., Kisker, E., Ross, C., Constantine, J., Boller, K., Chazan-Cohen, R., et al. (2005). The effectiveness of early head start for 3-year-old children and their parents: Lessons for policy and programs. *Developmental Psychology, 41*(6), 885-901.

Lu, A. (2014, February 6). *Governors pitch early education, workforce development ideas*. The Huffington Post.

Mead, S. (2009). *Education reform starts early: Lessons from New Jersey's PreK-3rd reform efforts*. Washington, DC: New America Foundation.

Mishel, L., Bivens, J., Gould, E., & Shierholz, H. (2012). *The state of working America* (12th ed). Ithaca, NY: Cornell University Press.

Mullainathan, S., & Shafir, E. (2013). *Scarcity: Why having too little means so much*. New York, NY: Time Books Henry Holt and Company, LLC.

Nam, Y., Kim, Y., Clancy, M., Zager, R., & Sherraden, M. (2013). Do Child Development Accounts promote account holding, saving, and asset accumulation for children's future? Evidence from a statewide randomized experiment. *Journal of Policy Analysis and Management, 32*(1), 6-33.

National Association for the Education of Young Children. (2014). *Critical facts about the early childhood workforce*. Washington, DC: NAEYC.

National Dissemination Center for Children with Disabilities. (2012). *Early intervention, then and now*. Washington, DC: National Dissemination Center for Children with Disabilities.

Ng, S. H. (1983). Children's ideas about the bank and shop profit: Developmental stages and the influence of cognitive contrasts and conflict. *Journal of Economic Psychology, 4*(3), 209-221.

Ng, S. H. (1985). Children's ideas about the bank: A New Zealand replication. *European Journal of Social Psychology, 15*, 121-123.

Olson, K., & Shaw, A. (2011). "No fair, copycat!": What children's response to plagiarism tells us about their understanding of ideas. *Developmental Science, 14*, 431-439.

O'Muircheartaigh, J., Dean, D., Dirks, H., Waskiewicz, N., Lehman, K., Jerskey, B., & Deoni, S. (2013). Interactions between white matter asymmetry and language during neurodevelopment. *The Journal of Neuroscience, 33*(41), 16170-16177.

Phillips, L., & Stuhldreher, A. (2011). *Kindergarten to College (K2C): A first-in-the-nation initiative to set all kindergarteners on the path to college*. Washington, DC: New America Foundation.

Phillips, M., Crouse, J., & Ralph, J. (1998). Does the black-white test score gap widen after children enter school? In C. Jencks & M. Phillips (Eds.), *The black-white test score gap* (pp. 229-272). Washington, DC: Brookings Institution Press.

Reynolds, A., & Temple, J. (1998). Extended early childhood intervention and school achievement: Age thirteen findings from the Chicago Longitudinal Study. *Child Development, 69*(1), 231-246.

Reynolds, A., Temple, J., Ou, S., Arteaga, I., & White, B. (2011). School-based early childhood education and age-28 well-being: Effects by timing, dosage, and subgroups. *Science, 333*(6040).

Reardon, S. (2011). The widening academic achievement gap between the rich and the poor: New evidence and possible explanations. In G. Duncan & R. Murnane (Eds.), *Whither opportunity? Rising inequality, schools, and children's life chances* (pp. 91-116). New York, NY: Russell Sage Foundation.

Russo, A. (2007). *The key to NCLB success: Getting it right from the start*. Washington, DC: New America Foundation.

Scullin, M., & Ceci, S. (2001). A suggestibility scale for children. *Personality and Individual Differences*, 30(5), 843-856.

Sherraden, M. S. (2013). Building blocks of financial capability. In J. Birkenmaier, M. S. Sherraden, & J. Curley (Eds.), *Financial education and capability: Research, education, policy, and practice* (pp. 3-43). New York: Oxford University Press.

Sherraden, M. S., Johnson, L., Elliott, W., Porterfield, S., & Rainford, W. (2007). School-based children's savings accounts for college: The I Can Save program. *Children and Youth Services Review*, 29(3), 294-312.

Sherraden, M. S., Peters, C., Wagner, K., Guo, B., & Clancy, M. (2013). Contributions of qualitative research to understanding saving for children and youth. *Economics of Education Review*, 32, 66-77.

Shonkoff, J. P., & Meisels, S. J. (1990). Early childhood intervention: The evolution of a concept. In S. J. Meisels & J. P. Shonkoff (Eds.), *Handbook of early childhood intervention* (pp. 3-31). New York, NY: Cambridge University Press.

Siegler, R. (2009). Improving the numerical understanding of children from low-income families. *Child Development Perspectives*, 3(2), 118-124.

Sonuga-Barke, E. J. S., & Webley, P. (1993). *Children's saving: A study in the development of economic behavior*. Hillsdale, NJ: Lawrence Erlbaum Associates, Ltd.

Spelke, E. (2000). Core knowledge. *American Psychologist*, 55(11), 1233-1243.

Stevens, M. (2012). *Reforming Head Start: What 're-competition' means for the federal government's pre-K program*. Washington, DC: New America Foundation.

Sun, Y., & Li, Y. (2011). Effects of family structure type and stability on children's academic performance trajectories. *Journal of Marriage and Family*, 73(3), 541-556.

US Census Bureau. (2012a). *School enrollment: Nursery and primary school enrollment of people 3 to 6 years old*. Washington, DC: US Department of Commerce, Census Bureau.

US Census Bureau. (2012b). *School enrollment: Single grade enrollment and high school graduation status for people 3 years and over*. Washington, DC: US Department of Commerce, Census Bureau.

US Department of Education. (2013). *Obama administration budget makes major investment in early learning*. Washington, DC: US Department of Education.

US Department of Health & Human Services. (2012). *Head Start program facts: Fiscal year 2012*. Washington, DC: US Department of Health & Human Services, Office of the Administration for Children and Families, Early Childhood Learning and Knowledge Center.

US Department of Labor. (2014). *Occupational outlook handbook: Summary for preschool teachers*. Washington, DC: US Department of Labor, Bureau of Labor Statistics.

-
- Van Dyne, L., & Pierce, J. L. (2004). Psychological ownership and feelings of possession: Three field studies predicting employee attitudes and organizational citizenship behavior. *Journal of Organizational Behavior*, 25, 439-459.
- Wagner, L. (2001). Aspectual influences on early tense comprehension. *Journal of Child Language*, 28(3), 661-681.
- Wheeler-Brooks, J., & Scanlon, E. (2009). Perceived facilitators and barriers to saving among low-income youth. *Journal of Socio-Economics*, 38(5), 757-763.
- Williams Shanks, T., & Robinson, C. (2013). Assets, economic opportunity and toxic stress: A framework for understanding child and educational outcomes. *Economics of Education Review*, 33, 154-170.
- Wright, L., & Borland, J. (1993). Using early childhood development portfolios in the identification and education of young, economically disadvantaged, potentially gifted students. *Roeper Review*, 15(4), 205-210.
- Xiao, J. J., & Anderson, J. G. (1997). Hierarchical financial needs reflected by household financial asset shares. *Journal of Family and Economic Issues*, 18(4), 333-355.
- Xiao, J. J., & Noring, F. E. (1994). Perceived saving motives and hierarchical financial needs. *Financial Counseling and Planning*, 5, 25-45.
- Yancey, A. (2012). Creating a healthy milieu for all. Essay on the current state and future of preventive medicine. *Preventive Medicine*, 55(6), 571-572.
- Yeung, W. J., & Conley, D. (2008). Black–White achievement gap and family wealth. *Child Development*, 79(2), 303-324.
- Zelazo, P. D. (2004). The development of conscious control in childhood. *Trends in Cognitive Science*, 8(1), 12-17.



© 2014 New America Foundation

This report carries a Creative Commons license, which permits re-use of New America content when proper attribution is provided. This means you are free to copy, display and distribute New America’s work, or include our content in derivative works, under the following conditions:

Attribution. You must clearly attribute the work to the New America Foundation, and provide a link back to www.Newamerica.net.

Noncommercial. You may not use this work for commercial purposes without explicit prior permission from New America.

Share Alike. If you alter, transform, or build upon this work, you may distribute the resulting work only under a license identical to this one.

For the full legal code of this Creative Commons license, please visit www.creativecommons.org. If you have any questions about citing or reusing New America content, please contact us.

MAIN OFFICE
1899 L Street, NW
Suite 400
Washington, DC 20036
Phone 202 986 2700
Fax 202 986 3696

NEW YORK OFFICE
199 Lafayette Street, Suite 3B
New York, NY 10012



NEW
AMERICA
FOUNDATION

WWW.NEWAMERICA.NET