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# Young Children's Perceptions of College and Saving

## Potential Role of Child Development Accounts

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# Young Children's Perceptions of College and Saving: Potential Role of Child Development Accounts

*This paper explores young children's perceptions and expectations about attending college, and the potential influence of a savings program on shaping children's perceptions about paying for college. As part of a four-year study of a school-based college savings program called "I Can Save", this paper uses qualitative evidence from interviews conducted in second and fourth grades with a diverse group of 51 children. Findings suggest that most of the children in the study have a general understanding of college and have begun a process of considering higher education. Further, children in "I Can Save" are more likely than a comparison group of children to perceive that savings is a way to help pay for college.*

***Key words:*** *academic expectations, college savings, school-based savings, Child Development Accounts, children, youth*

In the 19th century, Horace Mann (1848) referred to education as the "great equalizer". Unfortunately, rising college costs and student debt raise questions about whether education acts as the "great equalizer" in the 21st century. Over the last decade, college tuition and fees have risen at an average rate of 4.4 percent per year at public four-year colleges and 2.9 percent at public four-year colleges (College Board, 2007a). The total cost of attendance, which includes room and board, for an in-state student at a public four-year college for the 2007-08 school year is $13,589, an increase of 5.9 percent from the prior academic year (College Board, 2007a). Four-year private college rates also rose by 5.9 percent in 2007-08, to $32,307 (College Board, 2007a). As a result of increases in college costs and shifts in financial aid policy from grants to loans, students face increasingly higher student debt (Choy & Carroll, 2003; College Board, 2007b). According to the Project on Student Debt (2007), college graduates in 2006 owed approximately $21,100 in student debt, an increase of eight percent from 2005. At the same time, starting salaries for college graduates rose only four percent (The Project on Student Debt, 2007). The prospect of high student debt may dampen expectations for college and ultimately discourage children from applying to and attending college (see e.g., ACSFA, 2002; Choy & Carroll, 2003).

Child Development Accounts (CDAs) have been proposed as a way to help students with college costs (Boshara, 2003; Goldberg & Cohen, 2000; Sherraden, 1991).[1] CDAs, in their simplest form, are incentivized savings accounts that can be used for long-term investments, such as education, home and business ownerships, and retirement. Several countries, most significantly Singapore (Edusave & Baby Bonus programs) and the United Kingdom (The Child Trust Fund), have implemented CDA policies as a way to encourage children to invest in higher education (ASPIRE, 2004).

[1] In this paper, we use the shorthand "college" to refer to all accredited post-secondary education and training.

While the United States has been slow to adopt into law a national CDA program, a number of asset based policies for children have been introduced in the US Congress.[2] The ASPIRE Act, arguably the most far reaching of the policies, best represents how CDAs have been described in the literature (ASPIRE, 2004; Goldberg & Cohen, 2000). ASPIRE would create "KIDS Accounts," or a savings account for every newborn, with an initial $500 deposit, along with opportunities for financial education.[3] Children living in households with incomes below the national median would be eligible for both a supplemental contribution of up to $500 at birth and a savings incentive of $500 per year in matching funds for amounts saved in accounts.[4] When account holders turn 18, they would be permitted to make tax-free withdrawals for costs associated with post-secondary education, first-time home purchase, and retirement security. With this proposal, CDAs were placed on the U.S. policy agenda.

Despite these policy initiatives, we know relatively little about CDAs and their effects on children and their families. This study builds on a growing body of research investigating whether young children have a basic understanding of college. We examine children's understanding of college in several ways. First, we ask children to describe what college is and when students attend college. Second, we examine whether children express aspirations and expectations for attending college. That is, do children begin to form impressions about their personal belief in the desirability of college (aspirations) and do they differentiate between aspirations and what they actually believe will happen (college expectations). Third, we want to know if children begin to associate college with career. In addition to children's understanding of college, we also examine whether children perceive of the cost of college as a barrier to college and the accuracy of their understanding of the cost of college. Finally, we examine when children begin to value savings as a way to finance college. We ask these questions in second and fourth grade in order to gauge the best time to introduce the concept of saving for college.

## Literature Review

Implicit in CDA proposals, especially those that emphasize saving for future education, is that young children go through a process of "choosing" college that can be positively impacted by depositing and accumulating savings in a savings account. Asset theory posits that children's savings, especially school savings, may have two main effects on educational outcomes. One is direct and mainly financial: owning savings may increase children's ability to afford college, including paying for books and fees and buying a computer. The other effect is indirect and mainly attitudinal: savings and owning savings over time may raise children's educational expectations (Elliott III, 2008; Sherraden, Johnson, Elliott, Porterfield, & Rainford, 2007), and raised expectations may lead to increased academic efforts and achievement (Cook, et al., 1996; Marjoribanks, 1984; Mau, 1995; Mau & Bikos, 2000; Mickelson, 1990).

[2] These include: (1) America Saving for Personal Investment, Retirement, and Education (ASPIRE) Act, (2) Young Saver's Accounts, (3) 401Kids, (4) Baby Bonds, and (5) Plus Accounts. More information on these policies can be found at: http://www.assetbuilding.org/resources/childrens_savings_accounts

[3] At this writing, the ASPIRE Act remains on the Congressional agenda (http://www.assetbuilding.org/resources/the_aspire_act_of_2004_kids_accounts_s_2751_hr_4939).

[4] This is the progressive aspect of the policy.

## Children's perceptions of college

The benefits of CDAs for young children are based on the idea that they associate saving and savings with future college opportunity. What do we know about when children begin to understand the concept of college? The college choice literature assumes that young children do not begin to plan seriously for careers and college until middle school. Scholars describe a three-stage process of college choice (Cabrera & La Nasa, 2000; Hossler, Braxton, & Coopersmith, 1989; Wahl & Blackhurst, 2000). According to Cabrera & La Nasa (2000), beginning around seventh grade, children are in a *predisposition* stage when they develop occupational and educational aspirations. During high school, children enter a *search* stage and begin to gather information about attending college. Finally, during the *choice* stage in the final year or two of high school, children choose a college and enroll. National data sets, such as the supplement to the Panel Study of Income Dynamics (PSID) and the Child Development Supplement (CDS), reflect this model of college choice. They do not ask questions about children's career and higher education aspirations or expectations until age 12.

However, there is growing evidence that children begin to form ideas about occupation and education at a much younger age. For example, children have a basic idea about employment and may begin to develop occupational aspirations in elementary school (Jahoda, 1979; Wahl & Blackhurst, 2000). Trice and King (1991), for example, interviewed 211 kindergarten children at the beginning and end of the school year. When they asked the children, "What do you want to be when you grow up?" 46 percent gave the same answer in May as they did in September, suggesting that as early as kindergarten, children have occupational aspirations that are relatively stable over one year's time (Clinedinst, et al., 2003). In a study with 220 boys in second through eighth grade, Cook and colleagues (1996) find that by second grade, boys begin to develop occupational aspirations. Further, children appear to make a connection between doing well in school and future success in the labor market. Cook and colleagues (1996) also find that their second grade sample believes that schooling beyond high school leads to better occupational outcomes. Finally, in a study with five year-olds, Sherman (1997) finds that children understand school is necessary for future success in the labor market.

## When do children develop the concept of saving?

The next question concerns when children understand the idea of saving. Existing scholarship suggests that young children think about saving for short-term goals but do not understand saving for long-term goals until they reach approximately 12 years of age (Sonuga-Barke & Webley, 1993; Webley, Burgoyne, Lea, & Young, 2001). By age six, children learn that saving—along with exercising self-control, thrift, and patience—are good things, although they do not necessarily enjoy saving, nor are they very good at it (Sonuga-Barke & Webley, 1993; Webley, Levine, & Lewis, 1991). Between six and twelve years of age, children develop more abstract economic reasoning, become increasingly adept at understanding the value of saving, and learn that saving in a bank not only yields interest, but also protects their money from being spent by themselves or others (Sonuga-Barke & Webley, 1993; Webley, et al., 2001).

Thus, evidence suggests that children may benefit from saving prior to age 12, and that somewhere between the ages of six and twelve, they may begin to grasp the relationship between saving and

future opportunity. Moreover, as children approach age 12, they may begin to perceive saving as augmenting their ability to finance college.

**Research questions**

This study uses a quasi-experimental design to explore children's understanding of college and their aspirations and expectations for attending college, and the role of savings in college expectations. The research questions are: (1) What are second and fourth grade students' perceptions and understanding about college? (2) Do second and fourth grade students express aspirations and expectations for attending college? (3) Do second and fourth grade students link college to career goals? (4) Is there evidence of a shift in perception about the role of savings in financing college among students who participate in a college savings program compared to a similar group of students who do not participate in a college savings program?

## "I Can Save": Elementary School Students Save for College

This paper is based on data from a CDA demonstration called "I Can Save" (ICS). ICS is one of twelve sites of the "Saving for Education Entrepreneurship and Downpayment" (SEED)[5] national demonstration, a four-year (2003-2007) financial education and matched savings account program. ICS followed two cohorts of children from kindergarten/first-grade through third/fourth grade. It is one of two SEED sites that served very young students in public school. A non-profit community development organization operated ICS at a small elementary school of 215 students. In 2003 when the program started, the demographic profile of the student body was mixed income and predominately-African American (80%) and Caucasian (13%) (Missouri Department of Elementary and Secondary Education, 2008). Almost two-thirds of students (64%) qualified for free-and-reduced-lunches (Missouri Department of Elementary and Secondary Education, 2008), although many of the other 36 percent were financially comfortable. Almost all – 74 of the 75 – students in kindergarten and first grade joined ICS.

All students in ICS received a savings account with an initial "seed" deposit of $500. Subsequently, children and their families received a one-to-one match for all savings deposits, up to a total of $1,500. Over two-thirds (67%) of the students attended a weekly after-school ICS Club. For their attendance, they earned one dollar per week, which they deposited in their ICS accounts (ICS matched each student's dollar with another dollar when it was deposited in the account). Over the course of the four-year program, there were several opportunities for families to secure additional deposits by participating in financial education workshops and research interviews. At the end of four years, assuming the family drew all possible match dollars, each child could have more than $3,000 saved in their account. Upon completion of the program, parents rolled over their children's ICS accounts into a MO$T account, Missouri's College 529 plan (Clancy, Orszag, & Sherraden, 2004). At the end of the program, 52 (70%) of the 74 savings accounts were rolled into MO$T accounts. The remaining accounts were held by families who had moved during the program and could not be located. The program encouraged children and parents to continue depositing into the MO$T accounts through middle school and high school, although they were no longer part of a matched savings or research program.

[5] http://www.cfed.org/, CFED, 2005; http://www.newamerica.net/, New America Foundation, 2005.

Students and parents also participated in financial education. During the school day, students had lessons from the *Financial Fitness for Life*® curriculum (National Council of Economic Education, 2002 - 2005). In the ICS after-school club, students learned about money, entrepreneurship, and college through games and exercises. They also walked to the bank to deposit their savings once a month. Fifty (70%) parents participated in at least one monthly financial education workshop over the four years. Nine (13%) of the parents attended between five and nine workshops, and seven (10%) participated in ten or more. Topics included saving, budgeting, spending, taxes, and financing college.

## Research Methods

The study sample included 73 of 74 children in ICS and 37 comparison group children.[6] The comparison group is made up of children from the ICS school and a comparable school in the same school district. We recruited 24 students from second and third grades of the ICS school.[7] We also recruited 13 comparison group students from second grade in the comparable school. Attrition affected the final sample size. Over the course of the four year ICS program, 25 (34%) ICS students and 18 (38%) comparison group children moved out of the district. Therefore, this paper focuses on the sample of 51 students (including 31 children in ICS and 20 children in the comparison group) that remained in the schools throughout the study period.[8]

Most of the data for this paper come from in-depth interviews with ICS and comparison group students. Interviews focused on students' experiences earning and saving money; attitudes, aspirations and expectations about work, career, and college; and perceptions about cost of and access to college. Among the treatment group, we also explored children's perceptions about ICS.

Young children are susceptible to socially desirable responses (Woolley, Bowen, & Bowen, 2004). Moreover, they do not make abstract connections in the same ways that older children do. For example, older children can answer broad questions ("What does it mean to you to be successful, to get ahead?"), while young children cannot (Woolley, et al., 2004). To address these challenges, the interviewer began each area of inquiry with a broad question, but if children had difficulty responding, the interviewer asked follow up questions aimed at helping them articulate their knowledge and views. We took care to give the children enough direction so they understood what they were being asked, but did not provoke socially desirable responses. The interviewers were trained to walk a fine line between providing too little and too much direction. We omitted responses (coded as missing) that appeared to be provoked by the interviewer.

Interviews were digitally recorded and transcribed. A team of four researchers (the authors of this paper) coded the interviews using qualitative software (ATLAS.ti). Beginning with a short code list derived from study questions and propositions, we added to and altered the code list until all

[6] At the start of the program, the total number of children in kindergarten and first grade was 75. One child refused to be in the research.

[7] Although younger children would have been desirable, if we had selected children entering school after the treatment group would likely receive program benefits from teachers who incorporated ICS financial education in the curriculum.

[8] Four comparison group children moved from the comparable school and 14 from the ICS school. We interviewed 31 ICS participants and 10 comparison group students in both second and fourth grades. We interviewed ten comparison group students in fourth grade only because interviews with the children had not begun until after group had reached third grade.

researchers assigned the same main concepts in each interview. Thereafter, two researchers coded each interview, ensuring agreement on conceptual categories. We found it necessary to code with broader concepts and larger segments than with adult interviews. From the coded segments, we extracted themes and ideas about the ways that children think about the key issues. We entered some data into SPSS for analysis and use in tables. Chi-square tests, Fisher's Exact Test, and t-tests were used to examine relationships. Due to the exploratory nature of this study and small sample size, statistical significance is set at less than .10.

Savings data come from account monitoring research (Mason, Nam, Clancy, Loke, & Kim, 2009). Other information about family background and current circumstances comes from interviews conducted with parents when the program began and four years later when the program ended. The 90-minute parent survey covered topics such as demographics, education, occupation, housing, savings history, asset ownership, and financial history.

## Results

Of the 51 children in the sample, most lived with either their married parents (17) or with a single parent (13) (Table 1). The sample was predominantly African American (84%), with 13% Caucasian, and three percent Bi-racial. In terms of socio-economic status, the overall pattern was bi-modal. Eighteen families had annual incomes below $25,000 and 26 had incomes above $25,000 (the range is $0 to $100,000). Thirteen parents interviewed had not attended any college, 17 attended some, and 15 received a college degree or more.[9]

[9] Numbers in this section did not add up to 51 due to missing data.

Table 1. Demographic profile of children in the experimental and comparison groups in second grade

| | Second Grade | | |
|---|---|---|---|
| | Experiment group (n=31) | Comparison group (n=20) | Total (n=51) |
| Child gender | | | |
| Male | 12 (39) | 12 (60) | 24 (47) |
| Female | 19 (61) | 8 (40) | 27 (53) |
| Child ethnicity | | | |
| Caucasian | 4 (13) | 4 (20) | 8 (16) |
| African American | 26 (84) | 15 (75) | 41 (80) |
| Biracial | 1 (03) | 1 (05) | 2 (04) |
| Parent education | | | |
| Less than high school | 1 (03) | 2 (10) | 3 (06) |
| High school grad/GED | 6 (19) | 4 (20) | 10 (20) |
| Some college | 6 (19) | 11 (55) | 17 (33) |
| Bachelor's degree | 8 (26) | 1 (05) | 9 (18) |
| Post graduate | 6 (19) | 0 (00) | 6 (12) |
| Missing | 4 (13) | 2 (10) | 6 (12) |
| Parent income | | | |
| Less than $25,000 | 12 (39) | 6 (30) | 18 (35) |
| More than $25,000 | 15 (48) | 11 (55) | 26 (51) |
| Missing | 4 (13) | 3 (15) | 7 (14) |
| Parent marital status | | | |
| Married | 12 (39) | 5 (25) | 17 (33) |
| Single | 7 (23) | 6 (30) | 13 (25) |
| Separated | 2 (06) | 3 (15) | 5 (10) |
| Divorced | 5 (16) | 2 (10) | 7 (14) |
| Other | 0 (00) | 2 (10) | 2 (04) |
| Missing | 5 (16) | 2 (10) | 7 (14) |
| Parent college aspirations | | | |
| High school or less | 0 (00) | 1 (05) | 1 (02) |
| College or more | 26 (84) | 17 (85) | 43 (84) |
| Missing | 5 (16) | 2 (10) | 7 (14) |

## Children's understanding of college

Most children interviewed in second grade described college as a place where you go to school after high school. For instance, in second grade, Sally, a higher income student, said, "It's like the highest school. Elementary and middle school – and it's above high school."[10] Stan, a lower income student, also understood that college follows high school. He said they had to stay in school "until they get to high school… and then college."

Although most students understood that students attended college after graduating from high school, a few had trouble explaining when people actually go to college. Norelle, a higher income student said, "In college you have like, I think you might have six graders… six grade classes… and you might have… it might go up to 10th grade or 9th grade. And once you graduate from all those grades, that's when you're out of college."

Most students seemed to have understood that college was different from elementary school. For example, they understood that there was more studying and less play. While in second grade, Stan a low-income student understood that college follows high school. In speaking about students who go to college, he said they had to stay in school "until they get to high school… and then college." Halley, a low-income second grade student, understood that college came after high school and that not all college students attended classes full time. She said, "Like you can wait, because some people don't want to go when they finish high school. They kind of just wait, like 'till later. You know what my sister could do. She has enough degrees so that she doesn't have to go to school the whole day, only part."

By fourth grade, the majority of the treatment group (93%) and the comparison group (80%) articulated a basic understanding of what college was and when students went to college. Fourth grade children's explanations were more detailed and precise than statements made in second grade interviews. For example, by fourth grade, Norelle said college students had some control over the classes they took, "Well, college you can make a schedule and like you can do what you want. You can schedule your classes." While in second grade, Corey, a higher-income student, described college simply as a "bigger grade", however, by fourth grade he explained the difference in detail:

> College is a place you go, like to get ready for the world and where you start learning about who you are and you start learning about what job you want to go in. And they might have jobs for you to pick, like when you leave college or if you want a certain job. So I think college is a place where you start learning more about yourself and start making choices for yourself and making choices to pick what job you want and what kind of life you want.

[10] All child names are pseudonyms.

Table 2. The number of children who have a basic understanding of what college means

| | Fourth grade | | |
|---|---|---|---|
| | Experiment group | Comparison group | Total |
| Yes | 29 (93) | 16 (80) | 45 (88) |
| No | 2 (07) | 3 (15) | 5 (10) |
| Missing | 0 (00) | 1 (05) | 1 (02) |
| Total | 31 (100) | 20 (100) | 51 (100) |

Note: Percents are rounded

Table 3. Experiment and comparison group children's career aspirations in second and fourth grade

| | Second grade | | | Fourth grade | | |
|---|---|---|---|---|---|---|
| | Experiment group | Comparison group | Total | Experiment group | Comparison group | Total |
| Professional | 12 (39) | 3 (30) | 15 (36) | 21 (68) | 9 (45) | 30 (59) |
| Civil service | 4 (13) | 0 (00) | 4 (10) | 1 (03) | 2 (10) | 3 (06) |
| Service industry | 0 (00) | 1 (10) | 1 (02) | 1 (03) | 2 (10) | 3 (06) |
| Entertainer | 3 (10) | 3 (30) | 6 (15) | 3 (10) | 3 (15) | 6 (12) |
| Sports | 5 (16) | 1 (10) | 6 (15) | 5 (16) | 4 (20) | 9 (18) |
| Missing | 7 (22) | 2 (20) | 9 (22) | 0 (00) | 0 (00) | 0 (00) |
| Total | 31 (100) | 10 (100) | 41 (100) | 31 (100) | 20 (100) | 51 (100) |

Note: Percents are rounded

**Children's understanding of the role of college in the career path**

To introduce the topic of college in the interview, we asked the children what they wanted to be when they grew up. Then we asked how a person learns how to do that kind of work.[11] By asking the questions in this way, we hoped to learn if children make a connection between attending college and career without asking them outright. (Asking children a direct question about the role of college in career development would likely elicit a socially desirable response about the importance of college.)

*Work and career aspirations*. In second grade 36 percent of children said they aspired to a professional occupation (Table 3). Children's perceptions about what they wanted to be appeared to be strongly influenced by their environment. In speaking about what type of doctor she wanted to be, Lauren, a low-income second grader, said,

> My grandma, she said, "What kind of doctor are you gonna be?" And then I just said…I was like, "Hmm…" I was questioning. But my grandma told me what kind of doctor I wanted to be and I agreed with her, but [now] I forgot what kind of doctor it was. It started with a S.

Juanita, a high-income second grader, said that she wanted to be a lawyer, but gave some thought to becoming a teacher after a boy she helped in class told her she would make a good teacher, "because I teach very good".

By fourth grade, 59 percent preferred a professional occupation. In fourth grade, Juanita still wanted to be a lawyer. However, she was clearer about why:

> I want to be a lawyer to help innocent people. I don't want to be a lawyer of a guilty person. So I'm hoping I can find a lawyer job where I can only protect the innocent people. And I plan on going to law school to be a lawyer. I don't really know? much what you do, but I have seen many court cases with my mom and dad – [they] like to watch a lot of court cases like Judge Judy and all that… So I want to, like, take the guilty people to jail and keep the innocent people from being hurt.

Table 3 shows that while there was little difference in second grade between treatment and comparison groups (a difference of 9 children) in their desire to enter a professional occupation, by fourth grade the treatment group was much more likely to express preference for a professional occupation (a difference of 23children). From the children's statements, there were no clear reasons for why this difference existed.

[11] Our intention was not to ascertain occupational aspirations. Instead, it was to get the children to think about the future and explore their ideas about whether college is part of their personal vision. It could be that thinking through occupational aspirations biased the children towards saying they intended to go to college, but we found in preliminary interviews that children do think about what they will do when they grow up (they are used to being asked this question) and helped them to shift their focus to their future and the possible role of future education.

Table 4. Children's perceptions of how much school is needed to achieve their career aspirations

| | Second Grade | | | Fourth Grade | | |
|---|---|---|---|---|---|---|
| | Experiment group | Comparison group | Total | Experiment group | Comparison group | Total |
| High school | 3 (10) | 0 (00) | 3 (07) | 4 (13) | 2 (10) | 6 (12) |
| College | 18 (58) | 8 (80) | 26 (64) | 23 (74) | 14 (70) | 37 (72) |
| Other | 2 (06) | 1 (10) | 3 (07) | 3 (10) | 4 (15) | 7 (14) |
| Missing | 8 (26) | 1 (10) | 9 (22) | 1 (03) | 0 (00) | 1 (02) |
| Total | 31 (100) | 10 (100) | 41 (100) | 31 (100) | 20 (100) | 51 (100) |

Note: Percents are rounded

Table 5. College expectations among second and fourth grade students in the experimental and comparison groups

| | Second Grade | | | Fourth Grade | | |
|---|---|---|---|---|---|---|
| | Experiment group | Comparison group | Total | Experiment group | Comparison group | Total |
| Sure | 19 (61) | 6 (60) | 25 (61) | 23 (74) | 15 (75) | 38 (75) |
| Not sure | 7 (23) | 3 (30) | 10 (24) | 8 (26) | 4 (20) | 12 (24) |
| Missing | 5 (16) | 1 (10) | 6 (15) | 0 (00) | 1 (05) | 1 (02) |
| Total | 31 (100) | 10 (100) | 41 (100) | 31 (100) | 20 (100) | 51 (100) |

Note: Percents are rounded

*The role of college in career aspirations*. Most children in second and fourth grade viewed college as a requirement for fulfilling their career aspirations. Table 4 shows that in second grade, 64 percent of students said college was necessary to reach their preferred occupation, and by fourth grade, 72 percent said college was necessary. Cody, a lower-income student, said, "It's a place . . . you get diplomas to get jobs in your future." Another lower-income student, Emily, pointed out: "Well, it's a school where people go to learn and figure out what they want to be when they grow up." Rochelle, a higher income student who wanted to be a "scientist", explained that college was important because college teaches people about things they would need for a future job. "I think you'll get all the information if you stay there longer and then you'll have all the information that you need, and it will pop right up in your head when you really need it." Nathan, a high income student said college was "a place where you learn how to be what you want to be… Like if I want to be a haircutter, they have a haircutter school". There was little difference between the treatment and comparison groups with respect to the importance of college in reaching a career goal, regardless of grade level (Table 4).

**Children's college expectations**

In second grade, 25 (61%) of the students said they were "sure" they will attend college (Table 5). In fourth grade, 38 (75%) students said they were "sure" they will attend college. There was little difference between the treatment group and comparison group (see Table 5). Some were sure because they believed their preferred occupation would require college. For example, Dan, a high-income student said he was, "90 percent sure" about going to college in second grade, because he wanted to be a chemist or a physicist and this requires "graduate school too." He remained certain in fourth grade. Sarah, a low-income student who was certain she would attend college in second grade, was even more certain than Dan that she would attend college in fourth grade. In fourth grade she said that she was "99 percent sure" she would attend college. Anna, another higher-income student, who wanted to be a veterinarian, was certain she would attend college in both second and fourth grade. In second grade she said, "I'm very sure, because people should always go to college".

Some were sure they would go to college because they got good grades in school. Jared, a higher-income student who wanted to be a baseball player, believed he would go to college, "Because I get a lot of pluses on my report card sometimes and a lot of checks. I haven't had a minus that often".

Some students were less certain about going to college (Table 5). For example, in second grade Stan, a low-income student, said, "I don't know. I might, I might not." However, by fourth grade Stan was sure that he would attend college. In contrast, in second grade, Tamika, a low-income student, was pretty sure she would attend college, but by fourth grade, she was "not that sure".

**Understanding of the cost of college**

However, commensurate with their age and stage of development (Bombi, 1988), the children based their expectations on information that was very general in nature. For example, in second grade, low-income student, Precious, was not sure if she would attend college and pointed to money as a potential barrier, "But if I don't go to college, I'm going to have to try to get to college with a lot of money". Precious remained pessimistic about her chances for attending college in fourth grade and

continued to perceive of money as a potential barrier. When asked why she might not attend college, she said "Because I might don't have any kind of money".

While some children mention cost as a barrier to attending college, only 20 percent of children in second grade knew how much college costs per year. Even by fourth grade, only 35 percent had an accurate understanding of how much college costs (see Table 6).[12] Both of Dan's parents have college degrees, however, in fourth grade Dan still did not have an accurate idea about how much college costs. He said his parents had told him before, but he could not really remember how much. He started off by saying he thought it cost about $850. Then, he said college may cost "…something about a thousand, millions, gazillion dollars". Although Kayla believed that college costs "a whole bunch of money," in fourth grade she underestimated the cost of college, suggesting that it cost "like a hundred something dollars".

**Other potential barriers**

Cost of college was not the only barrier children mentioned. In the course of the interviews, the children identified other potential barriers to college, including academic performance, behavior, and desire to attend. Academic performance included grades and tests ("you have to take tests…to go to college"), intelligence ("you have to be smart to go to college"), perseverance ("doing the work will be hard"), and knowledge ("sometimes, if you behind, you won't know nothing"). One student pointed out that you had to "know stuff to go to college", and in college you "can't ask" the teacher. Luca a lower income student said "you got to learn real good and don't get like – be smart and stuff and – don't flunk stuff." Serena an upper income student said, "It's going to take a lot of work. It's going to be kind of hard." Another upper income student said, "If you don't do the work, you get failed back," suggesting that if you fail in elementary or high school, it might be difficult to go to college.

A few believed that their own classroom behavior, such as not paying attention in class, may influence their ability to go to college. Rochelle an upper income student said that other students' behavior could be a problem; getting to college requires staying "focused on yourself and your teacher and not on other kids that talk."

When discussing their classmates' prospects for college, children reiterated the same potential barriers academic performance and classroom behavior. For example, Serena believed that behavior could keep other kids from going to college, "Cause some people, they don't never listen in school and they won't get the knowledge to be able to go to college. They be flunking a lot of grades, to where if they get their grades messed up and they get confused, to where they probably drop out of something." Olivia an upper income student said, "They don't know how to behave. They play too much… and they don't pay attention."

[12] Responses were coded "inaccurate" if they are under $1,500 or over $30,000 per year. The average cost of one year of community college was $1,905 and average cost of an elite four year college was $24,000 according to 2004 figures. (American Council on Education, 2004). Figures did not include room and board.

Table 6. A child's understanding of the cost of college

| | Wave One | | | Wave Two | | |
|---|---|---|---|---|---|---|
| | Experiment group | Comparison group | Total | Experiment group | Comparison group | Total |
| Accurate | 7 (23) | 1 (10) | 8 (20) | 14 (45) | 4 (20) | 18 (35) |
| High | 5 (16) | 0 (0) | 5 (12) | 6 (19) | 2 (10) | 8 (15) |
| Low | 11 (35) | 1 (10) | 12 (29) | 8 (26) | 11 (55) | 19 (37) |
| Not sure | 2 (06) | 7 (70) | 9 (22) | 2 (06) | 2 (10) | 4 (08) |
| Missing | 6 (19) | 1 (10) | 7 (17) | 1 (03) | 1 (05) | 2 (05) |
| Total | 31 (100) | 10 (100) | 41 (100) | 31 (100) | 20 (100) | 51 (100) |

Table 7. Number of children who mention savings as a way of financing college

| | Second Grade | | | Fourth Grade | | |
|---|---|---|---|---|---|---|
| | Experiment group | Comparison group | Total | Experiment group | Comparison group | Total |
| Yes | 7 (23) | 2 (20) | 9 (22) | 23 (74) | 5 (25) | 28 (55) |
| No | 24 (77) | 8 (80) | 32 (78) | 8 (26) | 15 (75) | 23 (45) |
| Total | 31 (100) | 10 (100) | 41 (100) | 31 (100) | 20 (100) | 51 (100) |

Note: Percents are rounded

Some thought some of their classmates were not smart enough to go to college. Luca said that ability was a barrier to entering college, explaining that some kids would not be able to go to college "'Cause they not really smart… not really very smart." Similarly, Dan an upper income student explained that some of his classmates would likely not attend college, "Cause they're dumb. Some of them are dumb," although he also believes that behavior ("Or they keep being so bad, they keep getting stuck in high school") and the cost of college ("they can't afford it") could also be factors.

Some children (12) thought that desire to attend college could also be a factor for their classmates. Kim an upper income student observed that some kids may not want "to have extra school." Christine a low income student thought that some kids may not go to college, "Cause maybe they want to already get a job." Billy also an upper income student thought other kids may not see college as a necessity because they might already have learned what they needed in high school: "Probably they don't want to or they probably know everything that they need to know. And they can probably just get a college education in high school." Anna explained that some kids may want to reach adulthood faster, implying that student status was not an adult status. "Some people skip college, just because they want to hurry up, 'cause they don't want to be in school. And some people skip college to hurry up and act like they're an adult, so they can start cussing." These comments suggested that these children were well aware of vocational, educational, and lifestyle choices.

**Savings as a way to finance college**

Interviews with second and fourth graders about savings and college suggested that many children who participated in ICS perceived that their savings would help pay for college. In second grade, only 7 (23%) ICS children linked savings to their ability to finance college. However, by fourth grade, 23 (74%) ICS children mentioned savings as an important element in financing college (Table 6). For example, Ralph, a higher-income student discussed why some children did not attend college: "Well, some kids don't have bank accounts. And when they don't have bank accounts, they can't get money from [them]. So, when they don't have any money from it, then they can't go to college, 'cause they don't have any money from the bank." Olivia, another higher-income student, simply said children pay for college, "by saving money." In response to a question about whether it would be hard to pay for college, Cody, a lower-income student said, it would be "easy, because I go to 'I Can Save'." Cindy, another lower-income student, said, "Well, I'm going to pay for [college], because I have my own bank account."

The proportion of comparison group children (20%) who mentioned savings as important was approximately the same as among the treatment group (23%) in second grade. However, by fourth grade, "I Can Save" children were far more likely to mention savings as being important to their ability to finance college (74%), than comparison group children (25%) ($X^2$=11.88, $df$=1, $p$=.001) (Table 6).

While many ICS children viewed savings as a means to help pay for college, two children worried that they may not be able to save enough to cover college costs. For example, when the interviewer asked Emily, a low-income student, if her savings would be enough to pay for college, she answered "no". Stan, also low income, expressed concern, saying, "I don't know if I'm gonna have enough". These children's responses suggest that attention should be paid to ensuring that children have

access to a range of resources to help pay for college (e.g., savings, scholarships, loans, and work-study).

## Discussion

Scholars suggest that children develop occupational and educational aspirations around seventh grade. National data sets, such as the CDS, reflect this model of college choice. They do not ask children questions about career and higher education aspirations or expectations until age 12. However, our interviews with second and fourth grade children suggest that they have a more sophisticated conception of college than often assumed. Overall, these children converse about college with relative ease. These findings support other research that suggests that children as young as second grade, or younger, have begun to think about college and the career they want to pursue (Clinedinst, et al., 2003; Cook, et al., 1996; Sherman, 1997; Trice & King, 1991; Wahl & Blackhurst, 2000).

Moreover, the children discussed their expectations about reaching college. They have fairly realistic perceptions about the occupations that require a college education. Thirty-nine percent of second grade and 68 percent of fourth grade children in the treatment group aspire to a professional career (see Table 3). Most appear to be aware that their educational and vocational choices have implications for the future. These children not only have a basic understanding of what college means, but even in second grade they express aspirations and expectations for attending college that are related to achieving career goals. While more research is needed, these findings raise questions about the commonly held assumption that young children do not begin the process of "choosing college" until much later (Cabrera & La Nasa, 2000). While it cannot be said that these young children's perceptions are as sophisticated as those of children at age 12, early perceptions may help them choose actions that are difficult to make in the present (e.g., work hard in school), but advantageous in the long run.

In line with research that suggests that young children think about saving for short-term goals but do not understand saving for long-term goals until approximately 12 years of age (Sonuga-Barke & Webley, 1993; Webley, et al., 2001), we find that in second grade, 23 percent of the treatment group mention savings as a way to finance college, but, without being prompted, by fourth grade, 74 percent mention savings as a way to finance college. Moreover, children in the saving program are more likely to mention savings as a way to pay for college than comparison group children. The percent of children in the comparison group who mention savings as a way to finance college remained at or near 20 percent in both second (20%) and fourth grade (25%). The difference between the treatment and comparison group is statistically significant.

Further, previous research shows that young children become increasingly adept at understanding the value of saving (Sonuga-Barke & Webley, 1993; Webley, et al., 2001). In line with previous findings that suggest that children become increasing adept at understanding the value of saving, we find that children in ICS value savings as a way to finance college. For example, Sally a higher income student, said she thinks it will be easy to pay for college because "I have a lot in my account." This supports the idea that a school-based college savings program may be a valuable way to help establish saving for college as a norm among children. In fourth grade, Kim a higher income student, said, "Well, since I'm saving up when I'm relatively young, I think I will be able to have

enough money to be able to go to college." When Adam, a higher income student, was in fourth grade, he explained how a matched college savings program works:

> Well, it should be easy, 'cause I don't get the money out of my bank. And in "I Can Save", you get dollars…fake dollars…and then however many dollars you have, they double that. So like, if you have $4, then when you got the real money back, you'd have $8.

While national data sets such as the CDS do not ask children whether they have savings for school until age 12, findings in this study support the idea that children benefit from saving prior to age 12, and that somewhere between the ages of seven and twelve, children may begin to grasp the relationship between saving and future opportunity. Moreover, as children approach age 12, they may begin to perceive saving as augmenting their ability to pay for college.

**Limitations**

This study has several limitations that point to useful directions for future research. One limitation is the small sample size, which reduces generalizability of findings. Moreover, significant missing data (the 35% of children who left the school district) limit generalizability. Another limitation is that all of the children in the treatment group attend one school, while 10 comparison group students attend a different school in the school district. While the two schools are similar in many respects (e.g., same school curriculum, equal numbers of students receiving free and reduced lunches), there are differences (e.g., there is a lower proportion of African Americans in the ICS school), and there may be other unobserved differences that affect outcomes. A larger and representative study should test children's college aspirations and expectations, and possible effects of college savings programs.

**Conclusion and policy implications**

Findings from this study suggest that a diverse group of children may begin to form the building blocks for considering, and possibly choosing, college at much younger ages than has been commonly assumed. Therefore, it may be helpful to establish programs that intervene in the decision making process much earlier than high school. By age 12, children may have already formed key perceptions about the importance and possibility of college in their lives. It may be difficult to change these perceptions and attitudes once students reach middle school. Elementary school-based college savings programs may predispose children to striving for post secondary education. More research is needed, however, to learn if the positive effects of a college savings program observed in this study endure throughout middle and high school, especially as students confront the reality of college costs.

Further, college savings programs may be a useful way to reinforce the importance of savings and reduce the debt burden on college graduates. Although based on a small non-representative sample of young children, evidence from this study suggests by fourth grade many of the children in the savings program adopt the norm that savings is a desirable way to pay for college. A national savings program for children, such as CDAs, may introduce the idea that savings is an important way to reach long-term goals. Furthermore, in a more tangible way, money in a college savings account can help cover some costs associated with a college education.

Findings also suggest that policies that seek to create children's savings programs may be an effective way to provide children with the opportunity to put economic knowledge learned in classrooms into action, enhancing the overall learning experience.

## References

ACSFA (2002). *Empty promises: The myth of college access in America*. Washington, DC: Department of Education.

American Council on Education (2004). Putting college costs in context Retrieved August 10, 2006, from http://varolifamily.com/PDFs/P/putting-college.pdf

ASPIRE (2004). Aspire act/kids counts press conference Retrieved July, 22, 2004, from <http://www.assetbuilding.org/AssetBuilding/Download_Docs/Doc_File_1019_1.pdf>

Bombi, A. S. (1988). Social factors of economic socialization (G. Duveen, Trans.). In A. E. Berti & A. S. Bombi (Eds.), *The child's construction of economics*. New York: Cambridge University Press.

Boshara, R. (2003). Federal policy and asset building. *Social Development Issues, 25*(1&2), 130-141.

Cabrera, A. F., & La Nasa, S. M. (2000). Understanding the college-choice process. *New Directions for Institutional Research, 107*, 5-21.

Choy, S. P., & Carroll, D. C. (2003). *How families of low and middle-income undergraduates pay for college: Full-time dependent students in 1999-2000 (NCES 2003-162)*. Washington, DC: U.S. Department of Education, National Center for Education Statistics.

Clancy, M., Orszag, P., & Sherraden, M. (2004). College Savings Plans: A Platform for Inclusive Saving Policy? Retrieved February 11, 2006, from http://varolifamily.com/PDFs/C/College-Savings-Plans.pdf

Clinedinst, M. E., Cunningham, A. F., Hamill, M. W., Merisotis, J. P., Phipps, R. A., Redmond, C., et al. (2003). *Reauthorizing the higher education act: Issues and options*. Washington: D.C.: Center for Law and Social Policy.

College Board (2007a). Trends in College Pricing. Retrieved from http://www.careercornerstone.org/pdf/universities/tuition07.pdf

College Board (2007b). *Trends in student aid*. New York, NY: College Board.

Cook, T. D., Church, M. B., Ajanaku, S., Shadish, W. R. J., Kim, J., Ran, & Cohen, R. (1996). The development of occupational aspirations and expectations among inner-city boys. *Child Development, 67*(3368-3385).

Elliott III, W. (2008). Children's college aspirations and expectations: The potential role of college development accounts (CDAs) *Children and Youth Services Review, 31*(2), 274-283.

Goldberg, F. T. J., & Cohen, J. B. (2000). The universal piggy bank: Designing and implementing a system of savings accounts for children. Center of Social Development, Washington University in St. Louis.

Hossler, D., Braxton, J., & Coopersmith, G. (1989). Understanding student college choice. In J. C. Smart (Ed.), *Higher education: Handbook of theory and research* (Vol. 5). New York, NY: Agathon Press.

Jahoda, G. (1979). The construction of economic reality by some Glaswegian children. *European Journal of Social Psychology, 19*, 115-127.

Mann, H. (1848). Twelfth annual report of Harace Mann as secretary of Massachusetts state board of education. Retrieved March 5, 2008, from TnCrimLaw: http://www.tncrimlaw.com/civil_bible/horace_mann.htm

Marjoribanks, K. (1984). Ethnicity, family environment and adolescents' aspirations: A follow-up study. *Journal of Educational Research, 77*(3), 166-171.

Mason, L. R., Nam, Y., Clancy, M., Loke, V., & Kim, Y. (2009). *SEED account monitoring research: Participants, savings, and accumulation*. St. Louis, MO: Center for Social Development, Washington University in St. Louis.

Mau, W.-C. (1995). Educational planning and academic achievement of middle school students: A racial and cultural comparison. *Journal of Counseling & Development, 73*(5), 518-526.

Mau, W.-C., & Bikos, L. H. (2000). Educational and vocational aspirations of minority and female students: A longitudinal study. *Journal of Counseling & Development, 73*, 518-526.

Mickelson, R. A. (1990). The attitude-achievement paradox among black adolescents. *Sociology of Education, 63*(January), 44-61.

Missouri Department of Elementary and Secondary Education (2008). Missouri Department of Elementary and Secondary Education. from Missouri Department of Elementary and Secondary Education: http://dese.mo.gov/

National Council of Economic Education (2002 - 2005). *Financial fitness for life®*. New York: National Council of Economic Education.

Sherman, A. (1997). Five-year-olds' perceptions of why we go to school. *Children & Society, 11*(2), 117-127.

Sherraden, M. (1991). *Assets and the poor: A new American welfare policy*. Armonk, NY: M.E. Sharpe.

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

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

The Project on Student Debt (2007). *Student debt and the class of 2006*. Berkeley, CA: The Project on Student Debt.

Trice, A. D., & King, R. (1991). Stability of kindergarten children's career aspirations. *Psychological Reports, 68*, 1378.

Wahl, K. H., & Blackhurst, A. (2000). Factors affecting the occupational and educational aspirations of children and adolescents. *Professional School Counseling, 3*(5), 367-375.

Webley, P., Burgoyne, C. B., Lea, S. E. G., & Young, B. M. (2001). The economic psychology of everyday life. Hove, East Sussey, BN32FA: Psychology Press.

Webley, P., Levine, M., & Lewis, A. (1991). A study in economic psychology: Children's saving in a play economy. *Human Relations, 44*(2), 127-146.

Woolley, M. E., Bowen, G. L., & Bowen, N. K. (2004). Cognitive pretesting and the developmental validity of child self-report instruments: Theory and Applications. *Research on Social Work Practice, 14*(3), 191-200.