

The Independent Effects of Savings Accounts in Children's Names on Their Savings Outcomes in Young Adulthood

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A question of interest in children's savings research asks whether there are unique effects on children's later savings when savings accounts are opened in their names earlier in life, either independently from and or simultaneously with accounts in which parents save on children's behalf. Using longitudinal data from the Panel Study of Income Dynamics, this study created a combined measure of children's (ages 12–19) and parents' savings account ownership to predict savings outcomes in young adulthood (ages 20–25). All possible combinations of children's and parents' account ownership were significantly related to young adults' savings account ownership; however, only children's savings account ownership was significantly related to savings accumulation. Implications for the independent effects of savings accounts in children's names are discussed.

Keywords: Children; Mental accounting; Parents; Savings account; Young adults

Introduction

In recent years, conversations among researchers, educators, financial planners, and policy makers have voiced the need for reducing excessive student loan borrowing and encouraging saving in advance for postsecondary educational expenses (Assets and Education Initiative, 2013). Given the nearly \$1.2 trillion in outstanding student loan debt and an outstanding loan debt of \$26,000 for the average student (Consumer Financial Protection Bureau, 2013), saving may be both a complement to the financial aid system that emphasizes the risk of indebtedness and a strategy to produce positive effects on children's outcomes (Elliott & Lewis, 2013). Growing evidence suggests that parents' savings on children's behalf can produce positive effects on educational and financial outcomes, making it more likely for their children to enroll in and graduate from college and reduce their loan debt. For instance, in a sample of 13,699 high school-aged children from the National Educational Longitudinal Survey of 1988, Charles, Roscigno, and Torres (2007) found that parents' college savings on their children's behalf—account ownership and amount saved—were related to an increased likelihood of children's two- and four-year college attendance. Elliott and Nam (2013a, b) investigated the potential of parents' college savings for reducing children's student loan debt. In samples of low-income households from the 2002 Educational Longitudinal Study, they found that children whose parents saved for college on their behalf had a reduced probability of acquiring student loans above \$10,000 upon attendance at

four-year colleges (Elliott & Nam, 2013b). Studies in this area, rooted in research that explores parents' wealth more broadly and its relationship to children's outcomes, have consistently found positive effects.

Researchers have also begun to investigate whether there are effects on educational and financial outcomes when children have savings accounts in their own names, either apart from or in addition to accounts in which parents are saving on their behalf. A central premise of this research implies that children's later life outcomes may be affected when savings accounts are in their names (Elliott, 2012) and, perhaps, when they are exercising agency over the account such as by setting savings goals, making deposits, or reviewing account statements. A review of research reported that higher reading and math scores and increased likelihoods of college attendance were consistently related to having had a savings account in one's name during childhood, compared to having had no account at all (Elliott, Destin, & Friedline, 2011). More recent research has confirmed a similar relationship between children's account ownership and college graduation (Elliott, 2013; Friedline, Elliott, & Nam, 2013). Evidence also indicates that remaining connected to mainstream financial institutions, diversifying asset portfolios, and accumulating savings are associated with having had accounts in their names five to seven years earlier, when they were children (Friedline & Elliott, 2013; Friedline & Song, 2013).

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This line of research has spurred political interest in children's savings, as evidenced by emerging federal and state policies and programs. The America Saving for Personal Investment, Retirement, and Education (ASPIRE) Act was first introduced into Congress in 2004 and has been reintroduced regularly thereafter (Cramer, 2010). While the ASPIRE Act has not passed into public law, it proposes to create a universal, tax-advantaged savings program for all newborn children in the United States by opening accounts in children's names at birth. In 2010, a collaborative effort between the City and County of San Francisco, the San Francisco Unified School District, the Treasurer's Office, the Corporation for Enterprise Development (CFED), and others led to the implementation of the Kindergarten to College (K2C) savings program that automatically opens savings accounts for all children in San Francisco upon their enrollment into kindergarten. Of note is that these policies and programs are motivated, in large part, toward helping children from lower income families who may struggle to save, experience difficulty affording educational expenses, and need greater financial assistance. These policies and programs open or propose to open accounts in children's names in which children and their parents can save and invest in their futures.

The distinction between accounts in which parents are saving on children's behalf and accounts in children's own names is a slight, yet potentially critical, one. Moreover, this distinction has not been explicitly tested in existing research. Children may have no knowledge about or no claim to savings in accounts in which parents save but have not listed children as beneficiaries. This is not to say that parents' savings is unimportant for producing effects on children's outcomes; in fact, evidence indicates that the opposite may be true (Charles, Roscigno, & Torres, 2007; Elliott & Nam, 2013b; Pritchard, Myers, & Cassidy, 1989). However, it may be that accounts in children's names produce unique effects, perhaps by giving them a claim to the savings and a stake in their futures (Elliott, 2012).

A question of interest asks whether outcomes differ when savings accounts are opened in children's names in addition to and apart from accounts in which parents save on children's behalf. In other words, do children experience unique effects on outcomes when accounts are in their names, either independently from or simultaneously with their parents' accounts, or is it sufficient for parents to save on children's behalf? Though this question has not been tested previously, its study would add to existing knowledge by elucidating potentially important conceptual differences in children's

savings. To provide a preliminary test of this question, a combined measure of children's and parents' savings accounts was created and its relationship to savings outcomes measured in young adulthood was explored. This combined measure—child-parent savings account—was intended to test the relationship to young adults' savings when they had savings accounts in their names as children, either at the same time as or independently from their parents. This paper begins by reviewing children's savings research and is followed by a theoretical framework. The remainder of the paper includes descriptions of methodology and results before discussing findings and concluding implications.

Review of Existing Research on Children's Savings

A mounting body of research has investigated children's savings accounts as a vehicle for improving educational and financial outcomes across the life course (Elliott, Destin, & Friedline, 2011; Friedline, Elliott, & Nam, 2011). Together, including the 13 studies published within the last three years and reviewed in this section, evidence suggests that savings accounts opened in children's names early in life are related to savings later in life (see Table 1 for a summary of research; Friedline, Nam, & Loke, in press; Mason, Nam, Clancy, Kim, & Loke, 2010). While a wider body of research has examined the related topics of children's and young adults' financial socialization and saving motives (Ashby, Schoon, & Webley, 2011; Beutler, 2012; Bowen, 2002; Danes, 1994; Shim, Serido, Bosch, & Tang, 2013; Webley, Levine, & Lewis, 1991), these studies were not reviewed here because they did not test a specific financial product, such as a savings account, nor did their findings directly relate to the question of interest in this paper. Alternatively, the 13 studies were selected because they examined relationships between savings accounts opened in children's names or parents' savings accounts on children's behalf and savings measured at another time point. None of these studies directly compared parents' savings on children's behalf and savings accounts in children's own names, though findings informed the study presented in this paper.

Before reviewing this evidence, two distinctions are drawn between the types of children's savings accounts measured. First, studies have measured both accounts within the context of savings programs and within the context of mainstream banking institutions. Accounts in savings programs are automatically opened for participants and in children's names, seeded with initial deposits, incentivized by matching deposits up to certain thresholds, and restricted for use toward educational or other pre-specified expenses. Four studies

Table 1. Summary of Findings from Research Studies on Children’s and Parents’ Savings (N = 13)

Study	Controls for Savings Accounts in Children’s Names	Controls for Parents’ Savings Accounts on Children’s Behalf	Savings Account at Outcome (n = 10)		Savings Amount at Outcome (n = 10)	
			Savings Accounts in Children’s Names is Significant	Parents’ Savings Accounts on Children’s Behalf is Significant	Savings Accounts in Children’s Names is Significant	Parents’ Savings Accounts on Children’s Behalf is Significant
Beverly, Kim, Sherraden, et al. (2012)	SEED OK	X	X	X	X	
Friedline (2012)	PSID			X		
Friedline & Elliott (2011)	PSID	X	X	X		X
Friedline & Elliott (2013)	PSID	X	X	X	X	
Friedline, Elliott, & Nam (2011)	PSID	X	X	X		X
Friedline, Elliott, & Nam (2012)	PSID		X		X	
Friedline, Elliott, & Chowa (2013)	PSID	X	X	X	X	
Friedline & Song (2013)	PSID	X	X	X	X	
Friedline, Nam, & Loke (in press)	PSID	X		X	X	
Huang, Nam, & Sherraden (2012)	SEED OK	X		X	X	
Kim & Chatterjee (2013)	PSID	X		X		
Mason, Nam, Clancy, et al. (2010)	SEED	X			X	
Nam, Kim, Clancy, et al. (2012)	SEED OK	X		X	X	

Note. Children’s and parents’ savings accounts are marked with an “X” if they are significant in any model. Studies controlling for children’s savings account refer to accounts opened in their names. Nine of these studies measured children’s and / or parents’ savings accounts as accounts held in mainstream banking institutions and outside the context of savings programs. Studies controlling for parents’ savings account refer to parents with savings accounts on their children’s behalf, but not accounts in their children’s names. Three studies controlled for whether or not households had their own savings accounts, measured separately from the CDA-types of accounts tested and of which children were the beneficiaries (Beverly, Kim, Sherraden, et al., 2012; Huang, Nam, & Sherraden, 2012; Mason, Nam, Clancy, et al., 2010). Seven studies measured savings outcomes in young adulthood (Friedline, Nam, & Loke, in press; Friedline & Elliott, 2011; Friedline & Elliott, 2013; Friedline, Elliott, & Nam, 2011; Friedline, Elliott, & Chowa, 2013; Friedline & Song, 2013; Kim & Chatterjee, 2013); all others measured savings outcomes in childhood. All studies controlled for relevant demographic characteristics such as children’s, parents’, and / or households’ age, race, gender, marital status, education level, income, and net worth.

come from savings programs that provided savings accounts to all participants or to randomized treatment groups of participants. These four studies used data from the Saving for Education, Entrepreneurship, and Downpayment (SEED) national initiative and the SEED for Oklahoma Kids (SEED OK) experiment. While SEED is a national demonstration that targeted lower-income populations, SEED OK is a randomized experiment of savings accounts within the general population in Oklahoma. Higher- and lower-income populations participate in SEED OK, with lower-income

populations being eligible for incentives. The remaining nine studies used longitudinal data from the Panel Study of Income Dynamics (PSID). The PSID measures savings accounts held at mainstream banking institutions. Savings accounts at mainstream banking institutions are not automatically opened—a child or their family member has to take initiative to open the account. Additionally, these accounts are not seeded, incentivized, or restricted for pre-specified expenses. Second, it is noteworthy that savings amounts in SEED and SEED OK have been related in part to initial deposits and

incentives. In other words, a relationship between account holding and savings could be partly due to the comprehensive program design that facilitates accumulation rather than initial account holding itself. Savings accounts measured in the PSID and held in mainstream banking institutions potentially represent accumulated savings without the support of initial deposits or incentives. Readers should keep these distinctions in mind.

Eleven of the studies tested savings accounts in children's names. A study by Kim and Chatterjee (2013), using longitudinal data from the PSID, found that savings account ownership in childhood was associated with an increased likelihood of financial asset ownership in young adulthood, including bonds, certificates of deposit, and other types of accounts. Three of these studies used randomized data to find that accounts in children's names increased later account ownership and amounts saved (Beverly, Kim, Sherraden, Nam, & Clancy, 2012; Huang, Nam, & Sherraden, 2012; Nam, Kim, Clancy, Zager, & Sherraden, 2012). For example, in one study, researchers asked whether accounts in children's names (the SEED OK treatment) increased the likelihood of parents opening additional savings accounts for their children two years later (Huang, Nam, & Sherraden, 2012). Using logit models to examine data from a sample of 2,651 treatment and control group participants, researchers found treatment group status significantly increased the chances that parents opened additional savings accounts in children's names. Parents who were male, had higher levels of education, and had a high level of financial knowledge were more likely to open additional accounts.

Five of the studies simultaneously tested whether separate measures of children's accounts in their names and parents' savings accounts on children's behalf predicted savings account ownership and savings amounts in young adulthood (Friedline & Elliott, 2011; Friedline & Elliott, 2013; Friedline, Elliott, & Nam, 2011; Friedline, Elliott, & Chowa, 2013; Friedline & Song, 2013). Findings from these studies confirmed that having an account in one's name during childhood was related to savings outcomes in young adulthood. Four of the studies measured young adults' savings account ownership as the outcome, all of which found that young adults have an increased likelihood of owning savings or other types of financial assets when they have accounts in their names in childhood. Friedline and Elliott (2013) found that young adults ages 22 to 25 ($N = 425$) were 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 had savings accounts in their names as children, compared to those who did not. Parents' savings account ownership on children's behalf was related to young adults' savings account ownership at trend level ($p < .10$; Friedline & Elliott, 2013).

Findings from two studies using PSID data suggested that children were more likely to have savings accounts of their own when parents saved on their behalf five years earlier (Friedline, 2012; Friedline, Elliott, & Nam, 2012). These studies did not simultaneously control for accounts in children's names, though this is the outcome they predicted. That is, children ages 12 to 15 were more likely to have accounts in their names when their parents had savings accounts on their children's behalf five years earlier. In one example, the researcher used propensity score weighting and logistic regression to explore account ownership among children by household income levels. Among children ages 12 to 15 living in low-to-moderate-income ($LMI < \$50,000$; $n = 333$) and high-income ($HI \geq \$50,000$; $n = 411$) households, children were respectively two and three-and-a-half times more likely to have accounts in their names when parents were saving on their behalf five years earlier (Friedline, 2012).

Based on this review, it can be concluded that accounts in children's names and parents' savings accounts on their children's behalf are both positively related to later savings outcomes. Young adults with better savings outcomes also had savings accounts in their own names as children, even when their parents saved on children's behalf. This suggests that accounts in children's names may produce effects that are unique from the savings accounts parents have on their children's behalf, although research has not yet performed a direct test of this proposition because children's and parents' savings accounts are controlled for as separate variables. Thus, it is not yet known whether accounts in children's names produce independent effects on their savings outcomes as young adults when tested both independently from and simultaneously with parents' savings accounts on their behalf. This study created a combined child-parent savings account variable to address this limitation. The following section introduces a theoretical framework that begins to explain why children may benefit from savings accounts in their names.

Theoretical Framework

The premise of this paper suggests that savings accounts in children's names may have effects on outcomes that are distinct from parents' savings accounts on children's behalf and that these effects may emerge in research predicting

young adults' savings. Integrating concepts from theories of ownership and identity (Beggan, 1992; Beggan & Brown, 1994; Belk, 1988), institutional facilitation of child savings account effects (Elliott & Sherraden, 2013), behavioral economics (Thaler & Sunstein, 2009), and financial socialization (Furnham & Thomas, 1984; Lunt & Furnham, 1996), this framework attempts to provide some explanation as to why children's ownership of savings accounts in their names, apart from or in addition to accounts owned by parents in which they are saving on children's behalf, may relate to their savings outcomes as young adults. While the mechanisms presented in this theoretical framework cannot be directly tested with the existing data, the framework provides a start for identifying and explaining potential mechanisms behind the independent effects of savings accounts in children's names. This framework begins with a discussion of ownership, as children are the owners of accounts in their names.

Ownership refers to an individual's ability to exercise agency or control over objects (Beggan & Brown, 1994). In some instances, ownership is described as being formalized through a legal process (Etzioni, 1991), like the process of owning a savings account. A legal document, such as bank paperwork filled out to identify the owner with a social security number, ties account ownership to an individual and can be disputed in a court of law. For example, children are legal owners of savings accounts that have been opened in their names. In other instances, ownership is described as a psychological process (Furby, 1980; Van Dyne & Pierce, 2004), like when an account owner feels and perceives that a savings account belongs to them even though they do not always make deposits or decisions about investments. The psychological process of ownership may also apply to savings accounts in children's names because they are the beneficiaries of accumulated savings. Even though their parents may sometimes make decisions about the accounts, children remain the intended and legal beneficiaries of accumulated savings and accounts are still held in children's names. A child may have the capability to make decisions about the account in both examples, or they may simply know the account belongs to them.

Ownership helps children integrate savings accounts into the self and may explain the effects of these accounts on educational outcomes (Elliott & Sherraden, 2013). Elliott and Sherraden (2013) discuss the meaning children may assign to savings accounts and the interpretation of this meaning for their college futures, suggesting savings accounts in children's names signal the following: "We save, we go to college" (p.

5). This implies that saving is an important strategy to pay for college and that it is congruent with family norms. Moreover, ownership over savings accounts allows children to integrate the account as part of the self (Belk, 1988; Elliott, Friedline, & Kakoti, 2013), helping them to develop the identity of being college-bound. In this example, the meaning children ascribe to savings accounts in their names is 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 this logic, children might not ascribe this meaning to savings accounts 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 financial outcomes.

When savings accounts are not in children's names, Elliott and Sherraden (2013) suggest that children might not associate savings accounts with 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. From this perspective, the proximity of the savings account to the child may help them psychologically associate ownership (Beggan & Brown, 1994; Friedman, 2008). For example, when asked to identify the owner of a toy based on scenarios, children associate ownership with possession. The first person in the scenario 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 (Friedman, 2008; Friedman & Neary, 2008). Children as young as two can infer ownership to tangible objects; by ages five to six, they can infer ownership to intangible objects like ideas (Fasig, 2000; Olson & Shaw, 2011). What this suggests is that children—especially young children—may infer ownership of savings accounts to themselves if accounts are in their names; otherwise, they may infer ownership to their parents. This might explain why savings accounts in children's names produce effects on educational and financial outcomes that are unique from accounts in which parents save on children's behalf.

Behavioral economics may further explain why accounts in children's names relate to young adults' savings accumulation. The concept of mental accounting comes from behavioral economics and was originally proposed by Thaler (1985) to explain how people think about and categorize money in ways that prioritize and monitor saving and spending (e.g.,

Thaler, 2004). An account opened in a child's name may represent a form of mental accounting because the account is categorized as belonging to and being used by the child. Another layer of mental accounting may exist if the account is further labeled, such as a "college savings account" (Friedline, Elliott, & Nam, 2012). Both children and adults have been found to use mental accounting (Friedline, Elliott, & Nam, 2012; Thaler, 2004; Webley & Plaisier, 1998). Given that people can relate emotionally to mental accounting labels (Levav & McGraw, 2009), it may be that accounts opened in children's names elicit an emotional response from parents, who might otherwise spend down money in the accounts. Parents' emotional attachment to accounts opened in their children's names has been confirmed in qualitative interviews with parents in SEED OK (Gray, Clancy, Sherraden, Wagner, & Miller-Cribbs, 2012). Parents may be less likely to withdraw savings from these accounts because, in essence, they have to negotiate with their children every time they make withdrawals. Imagine a parent who uses a credit card emblazoned with their child's photo. Every time the parent makes a purchase, they have to look at their child and evaluate whether they should make the purchase. Thus, accounts in children's names may help parents reconsider and decide against withdrawals, meaning that children may accumulate more money in their accounts. Mental accounting may help explain why accounts in children's names have unique effects on their accumulated savings as young adults, compared to accounts in which parents save on children's behalf.

There may also be effects on young adults' savings when, as children, they saved simultaneously with their parents. That is, children may benefit when they have accounts in their names in addition to accounts in which parents are saving on their behalf. Of simultaneous saving, Friedline, Elliott, and Chowa (2013) write the following:

When households are simultaneously engaged in asset-building, adolescents and young adults may receive affirming messages about saving as a strategy for asset-building and may be more likely to engage in saving themselves. In this way, their saving behavior is congruent with their family and household context. (p. 48)

Others refer to this as a "multiplier effect" (Loke & Sherraden, 2009, p. 119). Beyond the effects of ownership, when children and parents own savings accounts simultaneously, parents may then have a tangible resource—a savings account—to socialize their children into the world of money and finances. Saving in tandem with their parents may signal to children that saving is congruent with household norms, reinforcing the

identity of a saver and the message that "we save" (Elliott & Sherraden, 2013). Given that children's saving is linked to the nature of relationships within the family (Ashby et al., 2011; Danes, 1994; Webley, Levine, & Lewis, 1991), simultaneous saving by parents and children may make this link explicit. This may explain the relationship of children's and parents' simultaneous savings accounts to savings outcomes in young adulthood.

This framework serves as the foundation for the research questions tested in this paper, which are as follows:

1. Are parents' savings accounts on their children's behalf associated with young adults' savings outcomes?
2. Are savings accounts in children's names associated with young adults' savings outcomes?
3. Are savings accounts in children's names held simultaneously with parents' savings accounts on children's behalf associated with young adults' savings outcomes?

To answer these questions, a combined child-parent savings account variable was created and analyzed to compare all possible combinations of children's and parents' accounts. Regarding the first research question, this means that parents' savings accounts on their children's behalf was tested in comparison to the child having an account in their name, both the child and parent having savings accounts, and neither the child nor the parent having a savings account. The first research question tested whether there were effects on young adults' savings outcomes when parents owned accounts for their children. It was hypothesized that the likelihood of young adults' savings account ownership would be associated with parents with savings accounts on their children's behalf; however, given evidence from mental accounting, the same relationship should not emerge for young adults' savings amount. The second research question tested whether there were independent effects on young adults' savings outcomes when accounts were in children's names. It was hypothesized that young adults would be more likely to have savings accounts and accumulate more savings when they had accounts in their names as children. The last research question tested the relationship to young adults' savings when children had savings accounts in their names simultaneously with their parents. It was hypothesized that children's and parents' simultaneous savings would relate to young adults' savings account ownership, but not amount saved. From this point forward, children's savings refers to accounts opened in children's names and parents' savings refers to accounts in which parents save on children's behalf.

Methods

Data

This study used longitudinal data from the Panel Study of Income Dynamics (PSID) and its Child Development Supplement (CDS) and Transition into Adulthood (TA) supplement. The PSID was a nationally representative longitudinal survey of U.S. individuals and families that began in 1968. The PSID collected data on characteristics such as employment, income, and assets. The CDS was administered to 3,563 PSID respondents in 1997 to collect a wide range of data on parents who participated in the PSID and their children (birth to 12 years). Follow-up surveys were administered in 2002 and 2007. The TA supplement, administered in 2005, 2007, and 2009, measured outcomes for young adults who participated in earlier waves of the CDS and were no longer in high school. Of the 3,563 respondents from the 1997 CDS, 1,797 were eligible for interviews in the 2009 TA and 1,554 interviews were completed. The three data sets were linked using PSID, CDS, and TA map files that contained family and personal identification numbers. For this study, independent variables for children were taken from the 2002 CDS and 2007 TA. The 2002 CDS was used because that was the first wave to collect information on parents' savings for children and children's own savings. The 2007 TA was used to control for whether or not young adults were working or had ever enrolled in college. The linked data sets provided an opportunity for analyses in which data collected at earlier points in time could be used to predict outcomes at a later point in time, with stable background characteristics as covariates.

Outcome variables were taken from the 2009 TA because this was the wave with the furthest time distance from children's and parents' savings accounts measured in the 2002 CDS—seven years. In addition, it was of interest to examine outcomes during an age when young adults would be emerging as financially independent. Young adults from the 2009 TA were between ages 20 and 25. While this is still early in the transition to young adulthood (Bell, Burtless, Gornick, & Smeeding, 2007), this is the latest age range possible from existing longitudinal data that allows for controls of children's and parents' savings accounts.

Variable Descriptions

Outcome variables. Two outcome variables were measured in this study: young adults' savings account ownership and the amount of money they had saved.

Savings account was a categorical variable downloaded from the 2009 TA that asked whether or not young adults owned a bank or savings account in their name (yes = 1; no = 0).

Savings amount was a continuous variable downloaded from the 2009 TA that asked young adults the summed value of their bank or savings accounts. Young adults without a savings account were coded as \$0 saved. Savings amount was transformed using the inverse hyperbolic sine (IHS) to adjust for skewness and retain zero values (Kennickell & Woodburn, 1999). To make the interpretation of savings amount values meaningful, IHS values can be converted back into dollar values by inputting the mean IHS savings amount into the following equation (Pence, 2006; Elliott & Nam, 2013a):

$$\frac{1}{2} (e^{ly} + e^{-ly}) \beta x$$

Every point change in an independent variable—such as a one point increase in the log of household income or IHS of net worth—was associated with a change in savings amount of \$351.73.

Variable of interest. *Child–parent savings account dosage* was the variable of interest. This variable was created to answer the research questions by combining measurements of children's and parents' savings account ownership variables downloaded from the 2002 CDS. Two questions from the 2002 CDS asked parents whether or not they had money for their child in a bank account separate from other savings and whether or not they had money specifically for their child's future schooling, such as college, separate from other savings. Responses were combined to create one dichotomous parents' savings account variable (yes = 1; no = 0). A separate question, also available from the 2002 CDS, asked children whether or not they had a savings or bank account in their own name (yes = 1; no = 0). This question was directed specifically to children and represented accounts in their names apart from that of parents' savings on their behalf. Parents' and children's savings account variables were combined to create the four-level categorical variable of interest: *child–parent savings account dosage* (neither child nor parent has savings accounts = 0; parent only has savings account = 1; child only has savings account = 2; child and parent have savings accounts = 3). Dosages were useful here because they all allowed for testing degrees of exposure of different combinations of child–parent savings accounts and their relationships to young adults' savings outcomes.

Child and young adult variables. Five independent variables measured children's and young adults' demographic

characteristics. Children's age, race, and gender were measured in the 1997 and 2002 CDS and, when they were young adults, their employment and college enrollment status was measured in the 2007 TA. Time order was taken into consideration by drawing on data measured in the 2002 CDS and 2007 TA that preceded the year in which young adults' savings outcomes were measured in the 2009 TA, while controlling for employment and college enrollment status.

Age was a continuous variable available from the 2002 CDS (range from 12 to 19 years). The continuous version of this variable was used in the regression analyses. For descriptive purposes, children's age was dichotomized at 16 years of age.

Race was a categorical variable available from the 1997 CDS (White = 1; Black = 0).

Gender was a categorical variable available from the 1997 CDS (male = 1; female = 0).

Employment status was downloaded from the 2007 TA that asked whether or not young adults currently worked for money (yes = 1; no = 0).

College enrollment status was available from the 2007 TA that asked whether or not young adults had ever enrolled in college by 2007 (yes = 1; no = 0).

Head and household socio-economic status (SES) variables. Six independent variables measured head of household's and household's socio-economic status.

Head's marital status was available from the 2001 PSID that asked heads of households whether or not they were married (married = 1; not married = 0).

Head's occupational prestige was a continuous variable available from the 2001 PSID that used 3-digit occupational codes from the 1970 Census, issued by the U.S. Department of Congress for industries and occupations. The PSID grouped the 984 occupational categories into 12 categories, which were combined into five categories ranging from unemployed to management or professional occupations (range 0 to 5). The continuous, five-category version of this variable was used in the regression analyses. For descriptive purposes, these five categories were grouped into those not currently working (0), blue-collar occupations (1 through 3), and white-collar occupations (4 and 5).

Head's education level was a continuous variable available from the 2001 PSID where each number represented a year of completed schooling (e.g., 12 years of education represented graduating from high school; range from 2 to 17). The continuous version of this variable was used in the regression analyses. For descriptive purposes, heads' of households' education level was categorized to include those with a high school diploma or less, some college, and college degree or more.

Household size was a continuous variable available from the 2001 PSID that summed the number of people living in a household (range from 2 to 11). The continuous version of this variable was used in the regression analyses. For descriptive purposes, household size was dichotomized at four members.

Household income was a continuous variable available and averaged from the 1996, 1997, 1999, 2001, and 2003 PSID. Values from the 1996, 1997, 1999, and 2001 waves were inflated to 2003 price levels using the Consumer Price Index (CPI). Household income was transformed using the natural log to adjust for skewness. The continuous version of this variable was used in the regression analyses. For descriptive purposes, household income was dichotomized at \$50,000. Households with incomes less than \$50,000 represented low-to-moderate-income (LMI) households and households with \$50,000 or greater represented high-income (HI) households (see for example, Elliott, Song, & Nam, 2013).

Household net worth was a continuous variable available and averaged from the 1994, 1999, 2001, and 2003 PSID that summed all assets, including savings, stocks/bonds, business investments, real estate, home equity, and other assets, and subtracted all debts, including credit cards, loans, and other debts. The continuous version of this variable was used in the regression analyses. Values from the 1994, 1999, and 2001 waves were inflated to 2003 price levels using the CPI. Household net worth was transformed using the inverse hyperbolic sine (IHS) to adjust for skewness and retain zero and negative values (Kennickell & Woodburn, 1999). The equation used to transform the IHS of young adults' savings amounts back into dollar values cannot be applied to the IHS of household net worth because, in order for the equation to be applicable, the transformed variable needs to be in the dependent position with a corresponding beta (β ; Elliott & Nam, 2013a; Pence, 2006). Therefore, the relationship to the dependent variable can be interpreted as every point increase or decrease in the IHS of household net worth. For descriptive purposes, net worth was categorized into households with \$0

and negative net worth, households with net worth greater than \$0 and less than \$10,000, and households with net worth \$10,000 and greater (Nam & Huang, 2009).

Sample

This study examined young adults' savings outcomes with an aggregate sample at three time points: childhood in 2002 and young adulthood in 2007 and 2009. An aggregate sample was drawn from the 2009 TA and was restricted to young adults who were ages 20 to 25, were no longer in high school, and had participated in the 2002 CDS and 2007 and 2009 TA. The sample was further restricted to Black and White young adults given small numbers of other racial/ethnic groups in the TA. These restrictions created a final sample of 691 young adults out of 1,554 completed interviews.

Children in 2002 had an average age of 16 (range 12 to 19) and a majority were White (81%). There were slightly more females (53%) than males (47%). A majority was employed (73%) and had enrolled in college (73%) by 2007. Their heads of households, most of whom were married (76%), had about one-and-a-half years of education beyond high school. Households' median annual income was \$67,709, which was log transformed for the analyses. Households' median net worth was \$83,804 (including home equity) and was transformed using the inverse hyperbolic sine transformation (IHS) for the analyses (range -13.034 to 17.815). Young adults in 2009 were an average age of 22 (range 20 to 25). Eighty-nine percent had savings accounts and had an average amount saved of \$2,991 (IHS transformed range -2.311 to 12.174). Additional sample characteristics are available in Table 2.

Analysis Plan

There were four stages of analysis conducted in this study. The first stage was to account for missing data. Completing missing data is preferred over listwise deletion to limit the threat to validity and to improve generalizability (Rose & Fraser, 2008; Rubin, 1976, 1987; Saunders, Marrow-Howell, Spitznagel, Dore, Proctor, & Pescario, 2006). Little and Rubin (2002) recommended completing missing data when variables have less than 20% missing, and all variables in our analysis had less than 20% missing. After determining that missing data were missing completely at random (MCAR) using Little's MCAR test ($\chi^2 [23] = 30.087, p = .147$), data were completed in SPSS Statistics version 20 using the Expectation Maximization (EM) algorithm (Dempster, Laird, & Rubin, 1977). The EM algorithm completed missing values by maximum likelihood estimation using the observed data in an iterative estimation process (Little & Rubin, 2002).

The remainder of the analyses was conducted using STATA version 12 (StataCorp, 2011). In stage two, propensity score weighting was conducted with multi-treatments/dosages in order to balance selection bias between those children, for example, who were exposed to having savings and those who were not, based on known covariates (Guo & Fraser, 2010; Imbens, 2000). More specifically, the sample was checked for covariate balance on four groups based on the variable of interest (child-parent savings account dosage): (a) neither child nor parent has savings accounts; (b) parent only has savings account; (c) child only has savings account; and (d) child and parent have savings accounts. Next, a multinomial logit regression was estimated predicting multi-group membership using nine of the independent variables, with the exception of young adults' employment and college enrollment. The decision to exclude young adults' employment and college enrollment status was based on temporal ordering: these variables were measured after child-parent savings account dosage. Variables showing significant differences or those that were found to be significant in previous theoretical research were included in the multinomial logit regression (Guo & Fraser, 2010). The resulting coefficient estimates were used to calculate propensity scores for each group. The inverse of that probability was used to create the propensity score weight.

In stage three, covariate balance was tested after applying the propensity score weight. Multinomial logit regression was used to check for covariate balance with child-parent savings account dosage as the dependent variable (Guo & Fraser, 2010). The reference group was "neither child nor parent has savings accounts," since this was the primary comparison with which research questions were concerned. Results from covariate balance checks indicated that data were better balanced when propensity score was weighted. To conserve space, results from covariate balance checks are not reported in the text.

In stage four, regression was used as the primary analytic tool to assess statistical significance for the overall relationship between each child-parent savings account dose separately and young adults' savings outcomes. Logistic regression was used to predict young adults' savings account ownership. Measures of predictive accuracy for logistic regression results are provided through the McFadden's pseudo R^2 (not equivalent to the variance explained in multiple regression model, but closer to 1 is also positive). Odds ratios (OR) are reported for easier interpretation and as a measure of effect size. Multiple regression was used to predict young adults'

Table 2. Sample Characteristics (N=691)

Covariates	Full Sample
<i>Child and Young Adult Variables</i>	
Age in 2002	16.209 (1.455)
Age in 2007†	20.071 (1.491)
Age in 2009†	22.058 (1.462)
Race	
Black	19
White	81
Gender	
Female	53
Male	47
Employment status	
Not employed	27
Employed	73
College enrollment status	
Never enrolled in college	27
Enrolled in college	73
<i>Head and Household Socio-Economic Status (SES) Variables</i>	
Head's marital status	
Not married	24
Married	76
Head's education level	13.645 (2.377)
Head's occupational prestige	2.956 (1.949)
Household size	4.177 (1.139)
Household income	
Median household income	\$67,709 (\$86,590)
Log of household income	11.042 (.729)
Low-to-moderate income (LMI; < \$50,000)	34
High-income (HI; ≥ \$50,000)	66
Household net worth	
Median household net worth	\$83,804 (\$1,315,054)
IHS of household net worth	12.029 (4.921)
Zero and negative net worth (≤ \$0)	6
Moderate net worth (> \$0 < \$10,000)	9
High net worth (≥ \$10,000)	85
<i>Variable of Interest</i>	
Child–parent savings account dosage	
Neither child nor parent has savings accounts	20
Parent only has savings account	11
Child only has savings account	23
Child and parent have savings accounts	46

Source: Expectation-Maximization (EM) completed data from the Panel Study of Income Dynamics (PSID) and its 2002 Child Development Supplement (CDS) and 2007 Transition into Adulthood (TA) supplement. Data is weighted using the recommended sampling weight from the 2009 TA.

Notes: Percentages reported for categorical variables and means and standard deviations reported for continuous variables. All sample characteristics are for samples prior to applying the propensity score weight. † Variables included for descriptive purposes only.

savings amount (IHS transformed), a continuous outcome where higher numbers represented more savings. The R^2 is used to provide a measure of predictive accuracy.

Results

The first part of this section presents descriptive statistics followed by findings from the covariate balance checks. Results are then presented from logistic and multiple regression models predicting young adults' savings account ownership and savings amount, respectively. Only findings from propensity score weighted models are presented for regressions. Propensity score analysis allows researchers to balance potential bias between those children, for example, who are exposed to having savings and those who are not, based on known covariates (Rosenbaum & Rubin, 1983). Until recently, propensity score methods have been limited to two-group situations, such as a single treatment and a comparison group. However, Imbens (2000) extended the method to multi-group situations (also see Guo & Fraser, 2010). Because of selection effects in observational data, propensity score analysis is a more rigorous statistical strategy to estimate effects than a conventional regression-type model (Berk, 2004); therefore, findings from weighted models are presented.

Descriptive Statistics

Among the original sample of 691 young adults, 615 or 89% owned savings accounts between ages 20 to 25. Table 3 presents descriptive statistics for young adults' savings accounts and savings amounts between ages 20 to 25 by demographic characteristics. Columns 1 and 2, respectively, presented column and row percentages for savings accounts. Percentages in column 1 referred to the total number within the group that owned savings accounts, or absolute percentages that add up to 100%. Percentages in column 2, which are reported in the text, referred to the group proportions represented amongst those that owned savings accounts, or row percentages that did not add up to 100% and could be used to make relative comparisons. For instance, among young adults who owned savings accounts, what percentages were Black and White? Column 2 indicated that among racial groups, 71% of Black young adults and 93% of White young adults owned savings accounts. Row percentages suggested that some groups may be overrepresented compared to others among young adults that owned savings accounts. The percentages of groups who owned savings accounts in young adulthood were greater for those who were employed (91%) versus not employed (83%) and who had ever enrolled in college (96%) versus never enrolled in

college (70%)—respective percentage point gaps of 8 and 26. Higher percentages of young adults from high net worth households (92%) owned savings accounts compared to those from moderate (66%) and zero and negative (80%) net worth households—respective percentage point gaps of 26 and 12. Demographic groups with race and class advantages had an advantage for account ownership in young adulthood in relative terms.

Columns 3 and 4, respectively, presented means and medians of young adults' savings amounts. Means (averages) are reported in the text. Among the original sample of 691 young adults, they had an average of \$2,991 saved. Similar to young adults' savings account percentages, gaps in savings amounts existed by demographic variables. White young adults had an average savings (\$3,469) that was over three-and-a-half times greater than Black young adults' average savings (\$968). Young adults who had ever enrolled in college (\$3,789) had an average savings that was almost five times greater than young adults who had never enrolled in college (\$801). Similar advantages in savings amounts were evident by household income (HI \$3,833 vs. LMI \$1,351) and net worth (high \$3,427 vs. moderate \$436 and zero and negative \$415).

Logistic Regression Results for Young Adults' Savings Account

Logistic regression results for young adults' savings account ownership are presented in Tables 4 and 5 (Modes 1, 3, 5, and 7). In Model 1, being White was associated at trend level with being about two times more likely to own savings accounts in young adulthood, compared to being Black. Young adults' employment status was associated with being two times more likely to own savings accounts, compared to those who were not employed. Ever enrolling in college was associated with being over five-and-a-half times more likely to own a savings account in young adulthood, compared with never enrolling in college. Young adults who, as children, had parents that saved on their behalf were upwards of three times more likely to have savings accounts of their own, compared to young adults who neither had savings accounts of their own nor parents who had savings accounts on their behalf. Young adults were about two times more likely to own savings accounts when they had savings accounts in their names as children, compared to children who neither had savings accounts of their own nor parents who had savings accounts on their behalf. Young adults were over two times more likely to own savings accounts when they had savings accounts in their names as children and also had parents who saved on their behalf.

Table 3. Percentages of young adults' savings accounts and their mean and median savings amounts at ages 20 to 25 by demographic characteristics from the 2009 TA (N = 691)

	Column Percentages of Young Adults' Savings Accounts	Row Percentages of Young Adults' Savings Accounts	Means of Young Adults' Savings Amounts	Medians of Young Adults' Savings Amounts
	Column 1	Column 2	Column 3	Column 4
Full Sample	89	89	\$2,991	\$1,000
<i>Child and Young Adult Variables</i>				
Younger than age 16	48	89	\$2,350	\$772
Age 16 and older	52	89	\$3,587	\$1,200
Black	15	71	\$968	\$200
White	85	93	\$3,469	\$1,200
Female	54	91	\$2,818	\$1,000
Male	46	87	\$3,186	\$951
Not employed	25	83	\$2,820	\$1,000
Employed	75	91	\$3,054	\$1,000
Never enrolled in college	21	70	\$801	\$116
Enrolled in college	79	96	\$3,789	\$1,500
<i>Head and Household Socio-Economic Status (SES) Variables</i>				
Head is not married	21	75	\$1,131	\$260
Head is married	79	93	\$3,590	\$1,500
Head has high school diploma or less	37	80	\$1,978	\$396
Head has some college education	26	92	\$2,771	\$784
Head has college degree or more	37	98	\$4,433	\$2,100
Head is not currently working	8	67	\$562	\$200
Head works in blue collar occupation	41	88	\$2,419	\$753
Head works in white collar occupation	51	95	\$4,068	\$1,800
Less than four household members	24	87	\$2,488	\$429
Four household members or more	76	89	\$3,151	\$1,101
Low-to-moderate income (LMI; < \$50,000)	29	76	\$1,351	\$200
High income (HI; ≥ \$50,000)	71	95	\$3,833	\$1,700
Zero and negative net worth (≤ \$0)	6	80	\$415	\$200
Moderate net worth (> \$0 < \$10,000)	6	66	\$436	\$20
High net worth (≥ \$10,000)	88	92	\$3,427	\$1,200
<i>Variable of Interest</i>				
Neither child nor parent has savings accounts	15	65	\$705	\$28
Parent only has savings account	10	85	\$2,399	\$1,000
Child only has savings account	24	92	\$2,596	\$1,200
Child and parent have savings accounts	51	98	\$4,311	\$1,500

Source: Expectation-Maximization (EM) completed data from the Panel Study of Income Dynamics (PSID), the 2002 Child Development Supplement (CDS) and the 2007 and 2009 Transition into Adulthood (TA). Data is weighted using the recommended sampling weight from the 2009 TA.

Notes: Column and row percentages are reported. Characteristics presented prior to applying the propensity score weight.

Table 4. Logistic and multiple regression results: Predicting young adults' savings account and savings amount in 2009 in the full sample (N = 691; propensity score weighted)

Covariates	Savings Account			Savings Amount		
	Model 1		OR	Model 2		SE
	β	SE		β	SE	
<i>Child and Young Adult Variables</i>						
Age	-.147	.107	--	-.026	.139	
White	.660†	.393	1.935	.867*	.383	
Male	-.349	.306	--	-.137	.348	
Employed	.734*	.307	2.083	.838*	.414	
Enrolled in college	1.715***	.322	5.557	2.472***	.432	
<i>Head and Household Socio-Economic Status (SES) Variables</i>						
Head is married	.671	.417	--	-.513	.472	
Heads' education level	.014	.083	--	-.059	.132	
Head's occupational prestige	.032	.097	--	.074	.111	
Household size	-.089	.146	--	-.077	.167	
Household income (log)	.290	.295	--	.818**	.297	
Household net worth (IHS)	.002	.032	--	.061*	.028	
<i>Child-Parent Savings Account Dosage</i>						
(Reference: Neither child nor parent has savings accounts)						
Parent only has savings account	1.028*	.502	2.795	.429	.539	
Child only has savings account	.681*	.353	1.976	.775*	.393	
Child and parent have savings accounts	.763†	.421	2.145	.485	.361	
Constant	$\beta = -1.558$	SE = 3.157	p = .622	$\beta = -6.087$	SE = 3.416	p = .075
Pseudo R ² and R ²			.263			.339

Source: Expectation-Maximization (EM) completed data from the Panel Study of Income Dynamics (PSID) and the 2002 Child Development Supplement (CDS) and the 2007 and 2009 Transition into Adulthood (TA) supplement.

Notes: Savings amount was transformed using the inverse hyperbolic sine (IHS) transformation to adjust for skewness (Kennickell & Woodburn, 1999). Propensity score weights used to test child parent savings account dosage are based on the propensity scores (or predicted probabilities) calculated using the results of the multinomial logit model (Guo & Fraser, 2010). β = regression coefficients. SE = robust standard error. OR = Odds ratio. * p < .05; ** p < .01; *** p < .001; † p < .10

Table 5. Logistic and multiple regression results: Predicting young adults' savings account and savings amount in 2009 in the full sample (N = 691; propensity score weighted)

Covariates	Savings Account			Savings Amount	
	Model 3			Model 4	
	β	SE	OR	β	SE
<i>Child–Parent Savings Account Dosage</i>					
(Reference: Parent only has savings account)					
Neither child nor parent has savings accounts	–1.028	.502	.358	–.429	.539
Child only has savings account	–.346	.531		.345	.498
Child and parent have savings accounts	–.264	.534		.055	.478
	Model 5			Model 6	
<i>Child–Parent Savings Account Dosage</i>					
(Reference: Child only has savings account)					
Neither child nor parent has savings accounts	–.681†	.353	.506	–.775*	.393
Parent only has savings account	.346	.531		–.345	.498
Child and parent have savings accounts	.082	.482		–.290	.334
	Model 7			Model 8	
<i>Child–Parent Savings Account Dosage</i>					
(Reference: Child and parent have savings accounts)					
Neither child nor parent has savings accounts	–.763†	.421	.466	–.485	.361
Parent only has savings account	.264	.534		–.055	.478
Child only has savings account	–.082	.482		.290	.334

Source: Expectation-Maximization (EM) completed data from the Panel Study of Income Dynamics (PSID) and the 2002 Child Development Supplement (CDS) and the 2007 and 2009 Transition into Adulthood (TA) supplement.

Notes: Savings amount was transformed using the inverse hyperbolic sine (IHS) transformation to adjust for skewness (Kennickell & Woodburn, 1999). Propensity score weights used to test child parent savings account dosage are based on the propensity scores (or predicted probabilities) calculated using the results of the multinomial logit model (Guo & Fraser, 2010). β = regression coefficients. SE = robust standard error. OR = Odds ratio. The β and SE for independent variables in Models 3 through 8 are consistent with Models 1 and 2. Given this, only results for the variable of interest are presented here in order to conserve space. † $p < .10$; * $p < .05$

Models 3, 5 and 7 tested the same models predicting young adults' savings account while changing the reference group for the variable of interest. Changing the reference groups permitted the examination of different comparisons and whether these comparisons produced other meaningful findings for the relationship between child–parent savings account dosage and young adults' savings account. Given that regression coefficients and standard errors were consistent with Model 1, only results for the variable of interest are

reported in Models 3, 5 and 7. Also consistent with results from Model 1, young adults were less likely to own savings accounts when neither they nor their parents had savings accounts in childhood compared to those in every other comparison.

Multiple Regression Results for Young Adults' Savings Amount

Multiple regression results for young adults' savings amount

(IHS transformed) are presented in Tables 4 and 5 (Modes 2, 4, 6, and 8). Accumulating more savings in young adulthood was associated with being White, employed, and ever enrolling in college, compared to their counterparts. Young adults accumulated more savings when they grew up in households with higher incomes and net worth. Young adults' savings amount was associated with having a savings account in their name as children, compared to those who neither had savings accounts of their own nor parents who had accounts.

Models 4, 6, and 8 tested the same models predicting young adults' savings amount while changing the reference group for the variable of interest. Changing the reference groups permitted the examination of different comparisons and whether these comparisons produced other meaningful findings for the relationship between child–parent savings account dosage and young adults' savings amount. Given that regression coefficients and standard errors were consistent with Model 2, only results for the variable of interest are reported in Models 4, 6 and 8. Also consistent with results from Model 2, neither having a savings account in their name in childhood nor having parents who had savings accounts on their behalf was negatively associated with savings amount in young adulthood.

Discussion

In children's savings research, a question of interest has asked whether children's financial outcomes are affected when accounts are opened in their own names, both independently from and simultaneously with accounts in which parents save on children's behalf. Findings from this study provide preliminary answers to this question with regard to financial outcomes. The discussion summarizes these findings, which are organized based on the savings account combinations tested in this study. The discussion begins by summarizing findings for the independent effects of children's savings accounts, which is followed by findings for children's and parents' simultaneous savings account ownership and parents' savings accounts on their children's behalf. Notably, any combination of child–parent savings account significantly relates to young adults' savings account ownership, suggesting that a variety of children's and parents' savings combinations may increase the likelihood of account ownership. However, only children's savings account ownership relates to the amount saved in young adulthood, providing support for the independent effects of accounts in children's own names. After summarizing findings by savings account combinations, the discussion identifies the significant effects of socio-economic status variables as they relate to young adults' outcomes.

The Independent Effects of Children's Savings Accounts
Multivariate findings from logistic and multiple regressions confirm that various combinations of child–parent savings account relates to young adults' savings. Consistent with prior research (Friedline, Elliott, & Chowa, 2013; Friedline, Elliott, & Nam, 2011), young adults were two times more likely to own savings accounts when they had accounts in their names as children. However, children's and parents' simultaneous savings account ownership and parents' savings accounts on their children's behalf also related to young adults' account ownership, indicating that any combination of child–parent savings account may improve young adults' account ownership.

With regards to savings amount, children's savings account was the only dosage that significantly related to their accumulated savings as young adults. From this perspective, savings accounts in children's names may produce effects on savings accumulation in young adulthood independently from accounts in which parents save on children's behalf. There are several explanations for this finding. First, it may be that children and parents are simultaneously able to save in accounts opened in children's names. In other words, parents may still contribute money to accounts in children's names, even though this practice is not captured in the current study. Savings may accumulate over time with multiple people saving in and contributing to the accounts. Second, it may be that parents are less likely to make withdrawals for emergencies or other expenses when accounts are in children's names, thus accumulating more savings by young adulthood. An account in children's names—even one held in a mainstream bank with relatively few restrictions on withdrawals—may emphasize to parents that the money belongs to their children and is only to be used for children's futures. This type of mental accounting process perhaps leverages parents' emotional attachment to and helps them mentally designate money for their children (Friedline, Elliott, & Nam, 2012; Thaler & Sunstein, 2009). Remember the example of the credit card with a child's photo? Something similar may occur for parents when accounts are opened and held in children's names.

Children's and Parents' Simultaneous Savings Accounts
Young adults were two times more likely to own savings accounts when they had savings accounts as children simultaneously with their parents, though this finding was at trend level ($p < .10$). This finding supports the financial socialization perspective that suggests children's savings is linked to the nature of relationships within the family (Ashby

et al., 2011; Danes, 1994). Simultaneous savings suggests parents may have a tangible resource—a savings account—to socialize their children into the world of money and finances. Owning accounts in tandem with their parents may also signal to children that saving and mainstream banking is congruent with household norms. Notably, while children's and parents' simultaneous savings was related to the improved likelihood of account ownership, it was not related to savings accumulation. This suggests that simultaneous savings may not necessarily be a strategy for savings accumulation.

Parents' Savings Accounts on their Children's Behalf

In terms of young adults' savings account ownership, parent's savings account for their child emerged as the strongest predictor. Young adults were almost three times more likely to own accounts when their parents were saving on their behalf seven years earlier, compared to neither children nor parents having savings accounts. Previous research has consistently linked parents' savings accounts on children's behalf to young adults' account ownership (Friedline, 2012; Friedline, Elliott, & Nam, 2012). However, like children's and parents' simultaneous savings, parents' savings accounts on their children's behalf was not significantly related to young adults' savings accumulation.

Significant Effects of Socio-Economic Status

Young adults' savings was still determined in part by socio-economic characteristics that were borne out in descriptive and multivariate findings. Eighty-nine percent of young adults owned savings accounts, though decidedly larger proportions of those young adults were White, had some college experience, had heads of households that were married, and had grown up in high net worth households. Average savings amounts suggested that White young adults accumulated over three-and-a-half times more savings than Black young adults. Young adults who grew up in households with high net worth accumulated almost eight times more savings compared to those who grew up in households with moderate and zero and negative net worth.

Socio-economic characteristics also emerged as significant in the logistic and multiple regressions, including race, employment status, college enrollment status, and household net worth. Consistent with previous research (Friedline & Elliott, 2011; Friedline, Elliott, & Chowa, 2013), being White was associated with about twice the likelihood of owning savings accounts in young adulthood as compared to being Black ($p < .10$). Young adults also accumulated significantly more savings when they were White compared to young

adults that were Black. Across all previous research, race is one of the strongest and most consistent predictors of young adults' savings account ownership and amount saved, with findings favoring Whites (Friedline & Elliott, 2013; Friedline, Elliott, & Chowa, 2013; Friedline, Elliott, & Nam, 2011). Young adults were also more likely to have savings accounts and had significantly more money saved when they were employed versus not employed, a finding consistent with prior research that links employment status to being banked (Rhine & Greene, 2012). One reason for the link between young adult employment and savings account ownership may be that employers offer—if not mandate—direct deposit for paychecks. Labor force attachment thus may help ensure that young adults own accounts and have money to save.

College enrollment was also found to significantly relate to savings account ownership and total amount saved, even after controlling for variables like young adults' employment status and households' income and net worth. Young adults' college enrollment was associated with over a five-and-a-half times increase in the likelihood of owning a savings account, compared to never enrolling in college. College enrollment was also associated with more accumulated savings. Previous research confirms these findings (Friedline & Elliott, 2013; Friedline & Song, 2013). Beyond simple confirmation from previous research, findings on college enrollment status provide preliminary evidence for a long-term argument for children's savings. Other research has found children's savings accounts to relate to college enrollment and graduation (Elliott & Beverly, 2011). Children's savings accounts appear to improve the likelihood of both financial and educational outcomes in young adulthood. Taken together, children's savings may be linked to college enrollment and college enrollment may be linked to financial outcomes such as savings. Thus, a child with a savings account may be more likely to enroll in or graduate from college. In turn, the child who enrolls in or graduates from college may be more likely to own savings accounts and accumulate assets. This combined evidence is an example of the potential compounding effects of having a savings account early in life on multiple indicators.

Household net worth was significantly related to young adults' savings amount, consistent with previous research (Friedline, Despard, & Chowa, 2012; Friedline & Elliott, 2011; Friedline, Elliott, & Chowa, 2013). Notably, household net worth was related to young adults' amount saved, but not their account ownership. This mixed finding has been previously confirmed (Friedline & Elliott, 2011; Friedline, Elliott, & Nam, 2011).

For instance, Friedline, Elliott, and Nam (2011) used propensity score weighted, longitudinal data from the PSID and its supplements to analyze savings account and amount saved for young adults ages 17 to 23 in 2007 ($N = 1,003$). Household net worth was related to young adults' amount saved but not account ownership. Researchers concluded that children's savings accounts may help maintain account ownership into young adulthood, while net worth may help accumulate savings.

Limitations

These findings should be considered in light of several limitations. A first limitation is the inability to directly measure and test the mechanisms discussed in the theoretical framework. Concepts of ownership, identity, and mental accounting are integral to the theoretical framework; however, the existing data did not provide a way to include these concepts into the current study. As such, any inferences about these mechanisms and their relationships to young adults' savings should be made with caution. A second limitation is with regard to the measures of children's and parents' savings accounts. With secondary data like the PSID, it cannot be certain the degree to which children's and parents' accounts are entirely distinct from one another. Concerns about ownership and control are perhaps allayed given that questions about savings accounts are asked directly to parents or children. In other words, children were explicitly asked whether or not they have an account in their name; parents did not provide this answer for their children. Moreover, the correlation between children's and parents' savings accounts, although significant ($r = .320, p < .001$), suggests that a substantial percentage of the variance is unexplained. The correlation might be higher if children's and parents' savings accounts were the same. A third limitation has to do with the methodology. Propensity score weighting may increase random error in the estimates due to endogeneity and specification of the propensity score estimation equation (Freedman & Berk, 2008). In some cases, propensity score weighting has exaggerated endogeneity (Freedman & Berk, 2008). Children's savings account may be endogenous if assignment into the treated and non-treated groups correlated with unobserved covariates that impact savings in young adulthood.

Implications

Children's savings accounts are gaining momentum as more states, educational institutions, and nonprofit organizations implement their own savings programs. These programs aim to provide accounts directly to children with an emphasis on

access for those from lower-income households. Within the last few years, savings programs have surfaced in a number of states, including the well-known Kindergarten to College (K2C) savings program in San Francisco that began rolling out accounts to all kindergarteners in 2010 and the more recent savings program in Cuyahoga County, Ohio that rolled out accounts to all kindergarteners in 2013. Four-hundred kindergarteners in Washoe County, Nevada also received savings accounts in 2013. The ASPIRE Act that has been proposed into Congress would open savings accounts with a \$500 initial deposit universally to newborns at birth upon receipt of a social security number. Children whose household income falls below a certain threshold would be eligible for additional subsidies (Cramer, 2010). Often referred to as Child Development Accounts (CDAs), accounts are opened in the names of children who become the beneficiaries of any accumulated savings. CDAs—and children's savings generally—are worth continued exploration because they represent a single intervention with the potential to improve children's educational and financial outcomes.

One implication of this study's findings is that—at least with regard to young adults' savings account ownership—every combination of children's and parents' savings accounts may produce positive effects on financial outcomes. In other words, if a goal of children's savings policies and programs is to improve children's financial outcomes by gaining entrée into the financial mainstream and remaining connected with financial products such as savings accounts in young adulthood (Friedline, Despard, & Chowa, 2012; Friedline & Elliott, 2013), then CDAs may produce this effect regardless of whether accounts are in children's names, whether parents save on children's behalf, or both. However, another implication is that savings accounts in children's names may be relevant for producing effects on their accumulated savings in young adulthood. In other words, the findings support CDAs opened in children's names if a goal is to help them accumulate savings toward developing secure financial footing, weathering periods of financial instability, and making other investments in assets such as cars, homes, and retirement accounts (Friedline & Song, 2013).

It is notable that the accounts tested in this study are not CDAs. In fact, they are accounts held in mainstream banking institutions and are only proxies for CDAs. As mentioned in the review of research, savings accounts in mainstream banking institutions and in savings programs are conceptually distinct. Savings accounts at mainstream banking institutions are not universally and automatically opened like CDAs—a

child or their family member takes initiative to open the account. Unlike CDAs, mainstream banks require a parent or legal guardian to be named as an account custodian and it is up to them to designate accounts in children's names. Some children and their parents may be better poised than others to open these accounts in absence of universally-available and automatically-opened CDAs, such as those with higher incomes and existing connections to mainstream banks (Friedline, 2012; Friedline, Elliott, & Chowa, 2013). Children and their parents with lower incomes and limited banking experience may be at a disadvantage. CDAs may be a strategy that institutionalizes the saving process (Elliott, Friedline, & Kakoti, 2013), which is especially important for parents who are not positioned with the financial resources to open accounts themselves or who do not have the foresight to designate accounts in children's names.

The absence of universally-available and automatically-opened CDAs creates opportunities for financial educators, counselors, and planners. Generally speaking, these financial service providers help clients across all spectrums of the life course to achieve goals and improve financial well-being. Financial service providers have opportunities to inform their clients about research findings on the independent effects of children's savings accounts and to connect children and parents with savings accounts.

Financial service providers can inform parents about the independent educational and financial effects of having accounts in their children's own names. Parents seeking out these services—no matter whether these services are complimentary or fee-based—may have interest in saving for their child's educational expenses or helping their child prepare for financial independence (e.g., learning to budget, buying a home, saving for retirement, etc.). Financial service providers can inform parents about the combinations of savings account ownership that may achieve educational and financial effects and can connect them with safe and reliable savings account products that best suit their interests. Financial service providers may also consider a shift from having conversations solely with parents about financial decisions to having conversations with children, as well, particularly as children more frequently hold accounts in their own names. Increasing conversations with children may mean opportunities for expanding services to younger demographics.

In having these conversations with children and parents, it will be wise for financial service providers to disclose

policies that discourage parents from establishing accounts in their children's names. Financial aid policies, including those that determine eligibility for need-based grants and loans, judge more harshly the assets held in a child's name than familial assets. These rules result in a greater savings 'penalty' for these assets, despite evidence suggesting that these are precisely the assets most likely to render positive educational and financial outcomes. In other words, financial service providers may need to explain to children and their parents that a savings account opened in the child's name can help the child educationally and financially, but that there may be penalties on any savings accumulated in the child's account. Until these policies are reexamined, financial service providers may need to help their clients consider the financial ramifications of assets in children's names and put their clients' best interests first.

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