Center for Social Development

GEORGE WARREN BROWN SCHOOL OF SOCIAL WORK

Two Accounts for why Adolescent Savings is Predictive of Young Adult Savings

An Economic Socialization Perspective and an Institutional Perspective

William Elliott III
School of Social Welfare, University of Kansas

Paul Webley
School of Oriental and African Studies, University of London

Terri Friedline
School of Social Work, University of Pittsburgh

2011

CSD Working Papers
No. 11-34

Campus Box 1196 One Brookings Drive St. Louis, MO 63130-9906 • (314) 935.7433 • csd.wustl.edu

Two Accounts for why Adolescent Savings is Predictive of Young Adult Savings: An Economic Socialization Perspective and an Institutional Perspective

Economic socialization and the institutional theory of saving offer different accounts for why adolescents' savings predicts savings in young adulthood. Economic socialization theory emphasizes the role that the family plays in whether or not youth develop a future time orientation and a habit of saving. Conversely, an institutional theory is built on the premise that acquisition of financial knowledge and resources are strongly influenced by structural failures related to social class and race. Using longitudinal data (N = 694) from the Panel Study of Income Dynamics (PSID) and its supplements, this paper asks whether having savings as an adolescent (ages 13 to 17) predicts having savings as a young adult (ages 18 to 22). Policy implications are discussed using both approaches and conclusions are drawn about how the approaches can be combined to create a saving intervention for adolescents.

Key words: *Savings, Economic Socialization, Institutional Theory of Savings, Child Development Accounts*

Neo-classical economic theory suggests that low-income families are unlikely to save because they have low incomes. According to this theory, saving is the result of a choice between short-term consumption goals and long-term preferences. Since low-income families have very little money left after meeting their basic survival needs (Devaney, Anong, and Whirl 2007) the decision to save is much more costly for low-income families than it is for middle- and upper-income families.

Neo-classical economic theory treats children and adolescents (hereafter, youth) the same as it does low-income individuals in one important way: it treats them as lacking sufficient income to save. This view of youth is articulated most clearly in the predominant model of saving in economics today: the life-cycle hypothesis (LCH). LCH suggests that over a lifetime, saving looks like an inverted U. That is, young people have little money to save and end up borrowing more; when they are middle-aged they have higher incomes which enable them to save more; and when they are old and their incomes decline, they spend their savings. Partly due to the belief that youth have little money of their own to save, research related to youth saving has focused on the role families play in developing youth's attitudes and behavior toward saving.

This paper begins by outlining the basic tenants of the economic socialization theory of youth saving. We then introduce the institutional theory of saving as a potential alternative way of interpreting findings from this study as well as past and future research on youth saving. Examining economic socialization theory through an institutional lens suggests that economic socialization explains who is more likely to fail to save (i.e., youth from low socioeconomic statuses [SES]) not what causes, in particular, low SES youth to fail to save in the first place. The distinction between explaining who is more likely to fail to save and what causes savings is adapted from Rank's (2004, 75) structural vulnerability perspective of poverty. According to Rank (2004), the question of who is

more likely to experience poverty focuses on, "the impact that human capital has on individual economic vulnerability". Conversely, questions about what causes poverty are focused on structural failings (Rank 2004). The same two levels may also be applicable to understanding youth saving.

We go on to discuss how economic socialization theory focuses on the role of individuals and family in developing youth's human capital (self-control, future orientation, financial knowledge, autonomy, conscientiousness, and so forth). However, we point out that institutional theory suggests that focusing on human capital development underestimates the role that formal institutions, such as government and financial institutions, play in saving. An underlying principle of institutional theory is that structural failures largely related to social class and race have denied low SES youth the benefits that being part of the formal banking system provides higher income youth. After presenting evidence of structural failures, we identify seven constructs that asset theorists suggest are important institutional aspects designed to promote saving and asset accumulation. We use these constructs as a framework to assess whether low SES families are effective economic socializers in a system that is built to promote saving and asset accumulation among those who already have assets. We suggest that the framework provides another way to explain who is more likely to fail from an institutional perspective.

After the research and theory are laid out, we then describe the methods used in this study. The major research question is whether or not having savings as an adolescent (ages 13 to 17) is predictive of having savings in young adulthood (ages 18 to 22). Next we present and interpret results in the discussion section using both an economic socialization perspective and an institutional perspective. We end by making policy suggestions based on both perspectives and drawing conclusions about how the two different approaches can be combined to create a saving intervention for adolescents.

Economic Socialization Theory of Saving

Economic or financial socialization theory has been used to explain youth's economic attitudes and behaviors. According to Ozmete (2009, 373), socialization is "the process whereby a person learns the value system, norms and required behavior patterns of a given society in which he belongs". Building on this general conception of socialization, economic socialization is the process by which youth acquire knowledge, skills, behaviors, and attitudes that are relevant to the economic world (Ward 1974).

Economic socialization theory emphasizes the role that the family plays in whether or not youth develop a future time orientation and a habit of saving. It builds on the commonly held belief that family is considered one of the key institutions in which youth development takes place (e.g., Bronfenbrenner 1979). Youth develop an understanding of the economic and financial world both through observation and modeling of their parent's behaviors (e.g., Moschis 1987), as well as through education, and they develop skills and strategies (for example to restrict their own spending) through parental guidance and self-reflection (Webley 2005). For youth, saving is almost always connected to a larger social unit or family. Given this, saving for youth is centrally tied up with the nature of relationships in the family, and is often a matter of negotiating with parents (Webley, Levine, and Lewis 1991; Sonuga-Barke and Webley 1993). Even when opening their own bank or savings accounts, youth are often supported by parents or other family members, and parents will frequently provide money that is designated for saving (Sonuga-Barke and Webley 1993). Moreover,

most youth rely on some form of allowance from their parents as their main source of income. The account of why youth savings may be predictive of young adult savings from an economic socialization perspective is one mainly of the success or failure of parents as economic socializers: if parents have encouraged good savings habits and an approach to economic life that takes the future into account, youth will continue to be savers as young adults (and for that matter as older adults), if they have not, or their attempts have been unsuccessful, poor saving habits will continue into adulthood.

A contextual developmental approach to economic socialization theory also takes into account youths' social backgrounds (such things as family income, parents' education, and employment). From this perspective, social background has an indirect influence on the development of a youth's human capital through the context of the family (Ashby, Schoon, and Webley in press). In line with economic socialization theory, financial institutions and policies regulating it largely rely on the family as the main, though not sole, institution for connecting adolescents to institutionalized saving opportunities.

In the next section we introduce an institutional theory of youth saving. From an institutional perspective, it might be said that economic socialization theory is better equipped to explain saving among youth who are middle- and upper-income than it is among youth who are low SES. The institutional theory of saving (Beverly et al., 2008; Beverly and Sherraden 1999; Loibl et al. 2010; Schreiner and Sherraden 2007; Sherraden 1991; Sherraden 2000; Sherraden and Barr 2005) is introduced here as a way of providing the reader with a different lens for interpreting findings in this and related studies.

Institutional Theory of Saving

The institutional theory of saving is designed to focus on the attitudes and behaviors of low SES populations (Sherraden and Barr 2005). Until recently, institutional theory has primarily been used to explain saving among adults. According to institutional theorists, institutions provide the context within which all human interaction takes place (e.g., Nee and Ingram 1998). Sherraden (1991, 124) provides a broad definition of institutions that fits with how the term is used in this paper, "formal and informal socioeconomic relationships, rules, and incentives, including the organization of capitalist enterprises and voluntary associations, and all the laws, procedures, and agents of the state that affect organizations and households".

Structural failure at the root of why low SES adolescents fail to save

An institutional theory of saving as articulated by asset theorists is built on the premise that acquisition of financial knowledge and resources are strongly influenced by structural failures related to social class and race. In talking about the American economic environment, Rank (2004, 65) states "the game itself is structured in a way that ultimately produces economic losers". For instance, low SES families also frequently point to institutional or structural failings to explain their lack of connections with financial institutions (Hogarth, Anguelov, and Lee 2004). Institutional theory posits that structural failures make it difficult for low SES families to provide their youth *with the connections within and between financial institutions* they need to save and accumulate assets. From our perspective a family's SES is based on their income, education, occupation, wealth and their connections particular to financial institutions. A big part of what institutional theorists suggest is

that the act of saving is not purely an individual act determined solely by human capital or even social background but it also requires access to the capabilities financial institutions provide (Sherraden 1991).

An important way that people are connected to financial institutions in a capitalistic society like the U.S. is by owning assets in the first place (Sherraden 1991). Of this process, assets begetting more assets, Sherraden (1991, 156) states,

> Owning financial assets, for most people, is an educational process. People pay attention to the investment, manage it, make some successful decisions, make some mistakes, seek out information, and throughout this process, gain a greater financial knowledge and sophistication. With this experience, people are likely to display greater interest, greater effort, and greater success in additional financial endeavors. This added effort, on the average, leads to increased income and accumulation of assets.

Assuming this to be true, structural failings put low SES youth at a competitive disadvantage with high SES youth. What this highlights is that financial institutions are purposely created with the intent of promoting saving and asset accumulation at the individual level which in turn creates opportunities for saving and asset accumulation at the societal level. In as much as financial institutions are created with this purpose in mind, it suggests that they do something to help people save beyond what people can do for themselves. This is what enables financial institutions to make a profit and remain in existence.

In sum, institutional theory suggests that families who have a legacy of being blocked from owning assets due to structural failures are less likely to have assets to begin with; in turn, they are less likely to have connections to financial institutions which are designed to augment their ability to save and accumulate assets. Lack of assets and institutional connections limits, but does not totally eliminate, the ability of low SES families to function optimally as economic socialization agents of low SES youth. Another way of stating this is that lack of assets and institutional connections puts low SES youth in an unfavorable position from the outset and almost assures they will be more likely to fail to save than their high SES counterparts.

The extent of income and wealth inequality in the US

The extent of income and wealth inequality in the U.S. is far-reaching, with inequalities favoring a small percentage of households at the upper ends of the distributions and leaving a majority at the lower ends vulnerable. These inequalities appear to be on the rise and are especially evident along lines of class and race (DeNavas-Walt, Proctor, and Smith 2010; Frank 2009; Mishel, Bernstein, and Shierholz 2009). For instance, since 1979 there has been roughly a 2% decrease in the share of income received by the lowest 20% of households while the top 20% of households enjoyed a 4% increase (Mishel, Bernstein, and Shierholz 2009).

The same trends in rising income inequality can also be said of household wealth, the extent of which is even greater. The top 20% of households, for instance, enjoyed an 11% increase in the share of the net worth distribution between 2001 and 2004 compared with the lowest 20% of households who experienced a decrease of almost an equal percentage (Mishel, Bernstein, and

Shierholz 2009). To put this in dollar terms, the top 20% of households received almost $20 million of the net worth in 2004 while the bottom 20% of households were *in debt* about $11,000 (Mishel, Bernstein, and Shierholz 2009). Wealth inequality also exists along racial lines. A report released by the Institute on Assets and Social Policy in 2010 found that the gap in net worth between Whites and Blacks quadrupled over the last decade (Shapiro, Meschede, and Sullivan 2010). According to their report, white households held up to $100,000 in median net worth in 2007 compared with black families who held up to $7,000, or about 7% of the net worth held by white households (Shapiro, Meschede, and Sullivan 2010).

The structural underpinnings of wealth inequality in the US

There is a well-documented history of structural inequality in America that cannot be ignored (Lui et al. 2006; Oliver and Shaprio 2006; Shapiro 2004; Sherraden 1991; Williams Shanks 2005). So before emphasizing human capital explanations, researchers should first identify whether or not low SES families are in an unfavorable position from the outset to develop human capital. To do otherwise might be like taking a theory that applies to middle- and upper-income youth with real choices and opportunities and testing it on the whole group, many of whom may be totally constrained by structural failures.[1] In the next section we provide a framework that may help identify whether or not low SES families are in an unfavorable position from the outset.

Assessing institutions as effective socializers of saving and asset accumulation

The family is a type of social institution. Under the current economic paradigm, families are seen as the primary institution for socializing youth into the adult economy. After studying 50 years of allowance research, in a speech at the Consumer Federation of America Financial Services Conference in Washington, DC, Lewis Mandell (2010) states, "The economic socializing power of parents may depend primarily on the explicit rules they set regarding allowances and the adolescents' agreement and understanding of these rules". A primary function of all institutions is to set rules for how people should behave (e.g., North, 1990).

Asset researchers have identified seven constructs that might serve as a framework for assessing whether institutions have the capacity to provide youth with the types of rules (i.e., institutional structure) required for promoting saving and asset accumulation. The constructs are: (1) access, (2) information, (3) incentives, (4) facilitation, (5) expectations, (6) restrictions, and (7) security (Sherraden and Barr 2005). In this part of the paper, these seven constructs are defined and then used as a framework for assessing the capacity of low SES families for providing the institutional structure required for promoting saving and asset accumulation.

> *Access* refers to the ability youth have to connect with the formal banking institution. Research on youth saving suggests that this system has failed to provide low SES youth with the same access that higher-income youth enjoy. For example, Kim, LaTaillade, and Kim (2011) use data from the Panel Study of Income Dynamics (PSID) and its Child Development Supplement (CDS) to test whether access to savings among youth ages 12 to 18 is associated with family economic resources. They find that the more net worth a family has the more likely youth are to have savings of their own—assets beget assets. Further, the less economic strain the family reports having the more likely the youth is to have savings of their own. They also find that father's education and race are predictors of having a savings

account. In the only study we found that uses a sample of low-income youth (below $50,000), Friedline (in press) finds that whether or not parents have savings for their youth (12 to 15) is predictive of whether the youth has savings of their own. However, low-income youth are far less likely to have savings of their own (38%) than higher income ($50,000 or above) youth (69%). Moreover, she finds that low-income youth are far less likely to have parents with savings for them (56%) than higher income parents (80%). While Ashby, Schoon, and Webley (2011) find, in a British sample, that family income does not have a direct relationship with youth savings, they do find that it has an indirect relationship that works through parenting style. Family income is associated with being an authoritative parent which in turn is associated with having savings as a youth. Overall, these findings provide some evidence for the proposition that low SES families are ill-equipped to provide youth with the same access to the formal banking system that higher-income youth enjoy.

Information refers to knowledge about policy, service, or product, as well as knowledge that may contribute to successful performance. Families are considered to be youths' main source of information on financial issues. However, research shows low SES families have less financial knowledge (Loibl et al. 2010; Lusardi 2000; Lusardi, Mitchell, and Curto 2010; Zhan, Anderson, and Scott 2006) and fewer discussions about family financial matters (Bowman 2011; Sherraden and McBride 2010) than middle- and upper-income families.

Incentives are financial rates of return, as well as nonfinancial "pay offs" for participation (Sherraden and Barr 2005). Research shows that low SES families are more likely to use alternative forms of banking such as check cashing institutions or pay day loans instead of formal banks (Barr 2004; Lusardi, Schneider, and Tufano 2011; Rhine, Greene, and Toussaint-Comeau 2006). With respect to rates of return, these types of financial institutions can actually be characterized as punitive. For example, Barr (2004) estimates that the average loan from a payday lending establishment is $300. The average fee for a single, two-week loan of $300 is about $54.

Facilitation refers to any form of assistance in saving. In the case of youth, an important aspect of facilitation is whether or not they have parents who encourage them to open a bank account. Youth who have parents who encouraged them to save using a bank account save more than others (Webley and Nyhus 2006). Descriptive data tell us, however, that low-income youth (38%) are far less likely to have a savings account than higher income youth (69%; Friedline in press). In addition to encouraging youth to save in a bank account, another way that families facilitate saving is by providing children with an allowance (Furnham 1999). For example, Furnham (1999) finds that youth who receive an allowance are more likely to save. However, findings are mixed on whether youth living in higher income families are more likely to receive an allowance than those living in lower income families and the research is all rather dated. Mortimer, Dennehy, Lee, and Finch (1994) find that income is associated with whether youth receive an allowance or not in the first place. In a sample of high-ability youth, Miller and Yung (1990) find no evidence of differences in receipt of allowance by income but they do find evidence to suggest that youth living with mothers with higher levels of education were more likely to receive an allowance than those living with mothers with less education. Overall, findings seem to suggest that low SES youth may be less likely to receive an allowance in comparison to higher income youth.

Expectations are embodied in institutional features such as saving targets and social pressure of staff and peers (Loibl et al. 2010; Loibl and Scharff 2010). However, low SES families are more likely to lack trust in the formal banking system (Barr and Blank 2009; Retsinas and Belsky 2005), and tend to pass these perceptions and practices onto their youth (Grinstein-Weiss et al. 2011; John 1999; Moschis 1985; Shim et al. 2010; Shim et al. 2009) when compared to middle- or upper-income families. When youth and their families save money in a formal banking institution, the meta-message asserts 'we save' for the things we want and need.

Restrictions are what the name implies. According to Sherraden and Barr (2005), restrictions are of two main types: restrictions on access and restrictions on use. Saving at a formal bank is a key way that people restrict their access to their savings (Sherraden and Barr 2005). As low SES youth are less likely to have a bank account (e.g., Friedline in press), one can conclude that they are also less likely to benefit from the restrictions banks provide. Not having a bank account can be particularly harmful to low SES families and youth because research shows that they are more likely to have their savings drawn down by family and friend networks if the money is saved somewhere in the house, for example (Chiteji and Hamilton 2002).

Security refers to having a safe place to put your money. Low SES families are far less likely to connect their youth to a federally insured bank than youth from higher SES families (Friedline in press). Federally insured banks provide people with safety of deposits in member banks currently up to $250,000. Having money in a bank also protects from such basic things as theft and natural disasters such as fire or flooding that savings at home may not be protected from.

Based on this framework, existing evidence suggests there is a least reason to believe that low SES youth start off in an unfavorable position from the outset when compared to their high SES counterparts in regard to their family's institutional capacity as economic socializer. This all but assures that low SES families will be more likely to fail at socializing their youth as savers and that low SES youth will be more likely to fail to save if they are not the exception and have very high levels of human capital in regards to saving.

Methodology

Data

This study used longitudinal data from the PSID and its supplements, specifically the CDS and the Transition into Adulthood (TA) supplement. The PSID is a nationally representative, longitudinal survey of U.S. individuals and families that began in 1968. The PSID collects data on characteristics such as employment, income, and assets. The exogenous variables related to households and parents were taken from 1989, 1994, 1996, 1997, 1999, and 2001 PSID data.

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). Questions covered a range of developmental outcomes across the domains of health, psychological well-being, social relationships, cognitive development, achievement, motivation, and education. Follow-up surveys

were administered in 2002 and 2007. For this study, exogenous variables for adolescents were taken from the 2002 CDS because that supplement represented the first data collection that included parents' savings for adolescents and adolescents' own savings.

The TA supplement, administered in 2005, 2007, and 2009, measures outcomes for young adults who participated in earlier waves of the CDS and were no longer in high school. The outcome variable for this study was from the 2007 TA. Of the 3,563 respondents from the 1997 CDS, 1,472 respondents were eligible to be interviewed for the TA in 2007 and 1,115 interviews were completed.

The three data sets were linked together using PSID, CDS, and TA map files that contained family and personal identification numbers. The linked data sets provided a rich opportunity for analyses in which data collected at one point in time (2002 or earlier) could be used to predict outcomes at a later point in time (2007). Because the PSID initially oversampled low-income families, both the descriptive statistics and path analysis were weighted using the last observed weight variable from the 2007 TA as recommended by the PSID/TA User Guide (Institute for Social Research 2007). In addition to allowing the data to become representative of the general population, the 2007 TA weight variable compensated for attrition between the 1997 CDS and the 2007 TA.

Sample

This study examined savings with a longitudinal sample at two time points: ages 13 to 17 in 2002 (i.e., adolescence; $M = 15.77$, $SD = 1.21$) and ages 18 to 22 in 2007 (i.e., young adulthood; $M = 19.63$; $SD = 1.23$). The sample in this study was restricted to Black and White young adults given the small numbers of other racial groups in the TA. Further, only those who were no longer in high school in 2007 (because they graduated, received a general educational diploma [GED], or left school) were included in the sample. The final weighted sample ($N = 694$) included 562 (81%) White and 132 (19%) Black young adults ages 18 to 22. Head of households had about one-and-a-half years of education beyond high school ($M = 13.47$, $SD = 2.43$). A majority of parents had savings for adolescents (59%), such as savings in a special bank account, a 529 college savings plan, or a Roth IRA. In aggregate, a majority of adolescents (67%) and young adults (85%) had savings accounts of their own. Almost two-thirds (61%) of adolescents did not receive any allowance and among those who did receive allowance, 27% was contingent upon completing household chores. About a quarter of young adults (26%) were working for pay and three quarters (74%) were enrolled in college at the time of survey. Additional sample characteristics for the non-weighted and weighted samples are available in Table 1.

Table 1. Sample Characteristics (N = 694).

Covariates	Non-Weighted Sample [a]	Weighted Sample [b]
Adolescents' Variables		
Adolescents' race†		
White	54	81
Black	46	19
Adolescents' gender†		
Male	47	49
Female	53	51
Adolescents' age in 2002†	15.84 (1.19)	15.77 (1.21)
Adolescents' employment status†		
Currently working for pay	18	20
Not currently working for pay	82	80
Adolescents' allowance		
Allowance + chores	31	27
Allowance only	10	12
No allowance	59	61
Adolescents' future orientation	25.96 (3.23)	26.04 (3.10)
Adolescents' savings account		
Adolescents with savings accounts in 2002	58	67
Adolescents without savings accounts in 2002	42	33
Household Variables		
Head's education level	13.11 (2.27)	13.47 (2.43)
Household income (log)	10.43 (1.97)	10.56 (2.10)
Household net worth (IHS)	9.21 (6.26)	9.99 (5.77)
Parents' Variables		
Parental warmth	3.77 (.68)	3.81 (.64)
Parents' savings for adolescents		
Parents' savings for adolescents	51	59
No parents' savings for adolescents	49	41
Young Adults' Variables		
Young adults' age in 2007†	19.71 (1.22)	19.63 (1.23)
Young adults' employment status†		
Currently working for pay	23	26
Not currently working for pay	77	74
Young adults' college enrollment status†		
Currently enrolled in college	71	74
Not currently enrolled in college	29	24
Young adults' savings account		
Young adults with savings accounts in 2007	78	85
Young adults without savings accounts in 2007	22	15
Young adults' median savings amount (±$600)†		
Young adults with savings at or above median in 2007	46	53
Young adults with savings below median in 2007	54	47

Notes: Data from the Panel Study of Income Dynamics (PSID) and its 2002 Child Development Supplement (CDS) and Transition into Adulthood (TA) supplement. Data imputed using multiple imputations. Percentages are reported for categorical variables. Means and standard deviations (in parentheses) are reported for continuous variables. [a] Non-weighted sample refers to not using the recommended PSID weight from the 2007 TA. [b] Weighted sample refers to using the recommended PSID weight from the 2007 TA. † Denotes variables that are included in this table for descriptive purposes only and are not included in the path analysis.

Variable descriptions

Outcome variable

Young adults' savings was a dichotomous variable downloaded from the 2007 wave of the TA and asked young adults whether or not they had a checking or savings account in their name (*savings account/no savings account*). Young adults were also asked the amount of money saved in their accounts. Young adults' savings amount was a continuous variable ranging from $.01 to $9,999,996. The savings amount was dichotomized at the median (±$600) to form two categories (*savings at or above median/savings below median*). Young adults' median savings amount was used for descriptive purposes only and not included in the path analysis.

Exogenous variables

Adolescents' savings was downloaded from the 2002 wave of the CDS and asked adolescents whether they had a savings or bank account in their name. Adolescents' savings account variable separated adolescents into two categories (*savings account/no savings account*).

Future orientation index represented a composite score of seven questions from the 2002 wave of the CDS that asked adolescents, "What do you think are the chances you will…" (a) get divorced, (b) have enough money to support you and your family before age 30, (c) graduate from a 2-year college or other vocational program, (d) graduate from a 4-year college, (e) have children, (f) get married, and (g) live past the age of 21?" Respondents chose among options including "(a) no chance, (b) some chance, (c) about 50-50, (d) pretty likely, and (e) it will happen." This scale was similarly used by Friedline, Elliott, and Nam (2011). Higher scores meant that adolescents were more orientated toward the future.

Adolescents' allowance was downloaded from the 2002 wave of the CDS. Two questions asked adolescents whether or not they received any allowance and, if so, whether they were required to do work (e.g., completing household chores) to receive their allowance. Responses to these two questions were combined into three categories (*no allowance/receives an allowance no chores/receives an allowance plus chores*).

Parents' savings for adolescents was downloaded from the 2002 wave of the CDS and asked parents and caregivers whether they (or another caregiver) had any money put aside for their adolescents in a bank account that is separate from other types of savings. They were also asked whether they (or another caregiver) had any money put aside specifically for their adolescents' college or future schooling, separate from other types of savings they may have for him or her. Responses to these two questions were combined to create a dichotomous variable including parents with savings for adolescents and parents without savings for adolescents (*parents' savings/no parents' savings*).

Parental warmth was a scale available from the 1997 wave of the CDS. To measure parental warmth, parents were asked about or observed the extent to which (a) there was conversation with the adolescent, (b) adolescents' questions were answered verbally, (c) physical affection was shown by hugging or kissing, (d) voice showed positive feelings toward the adolescent, (e) adolescent's contributions were encouraged, (f) adolescent's skills were mentioned, (g) adolescent received verbal praise, (h) a nickname or diminutive was used to refer to the adolescent, and (i) parents responded

positively to interviewer's praise of the adolescent. Responses ranged from 1 (*never*) to 5 (*often*). Responses were coded so higher scores of parental warmth corresponded with more frequent displays of warmth.

Head's education level was a continuous variable ranging from 1 to 16 and was available from the 2001 wave of the PSID. Each number represented a year of completed schooling. For example, a head of household who had 12 years of education was considered to have graduated from high school.

Net worth was a continuous variable available that summed all assets, including savings, stocks and bonds, business investments, real estate, home equity, and other assets, and subtracts all debts, including credit cards, loans, and other debts for 1989, 1994, 1999, and 2001. Net worth was first inflated to 2001 price levels and then the values were averaged across the four time points. The inverse hyperbolic sine (IHS) transformation of net worth was used (Burbidge, Magee, and Robb 1988). The IHS transformation is one similar to the transformation used by the Federal Reserve to analyze wealth. The benefits of this transformation are that it allows for the existence of negative values and can more clearly demonstrate changes in the wealth distribution (Kennickell and Woodburn 1999), whereas the natural log transformation does not. The analysis was also run using the natural log transformation for comparison purposes and those results are reported in the footnote of Figure 1. About 6% of this sample had negative net worth values and 3% had missing values, both of which were re-coded to zero with the natural log transformation. For descriptive purposes, the continuous form of net worth was divided into three categories (*zero-and-negative/moderate/high*), including zero and negative net worth (≤ $0), moderate net worth (> $0 and ≤ $10,000), and high net worth (> $10,000). The three categories were similar in construction to those used by Nam and Huang (2009).

Household income was a continuous variable that was be calculated by averaging household income from the 1996, 1997, 1999, and 2001 waves of the PSID, with income inflated to 2001 price levels using the Consumer Price Index. The natural log transformation of income was used to account for the skewness of the variable. For descriptive purposes, the continuous variable was divided into three categories (*low/moderate/high*) based upon the current population report by the U.S. Census Bureau (De Navas-Walt, Cleveland, and Webster 2002). These levels included low income (< $40,993), moderate income (≥ $40,993 < $79,111), and high income (≥ $79,111).

Analysis plan

There were several steps in the analysis. First, missing data was imputed in R Version 2.13.1 using the Markov Chain Monte Carlo (MCMC) method. Second, descriptive statistics and Pearsons' correlations were performed. Table 3 shows the correlations among exogenous variables. Third, path analysis using Mplus Version 5.1 was used to examine the relationships between household financial resources, parents' characteristics, adolescents' financial socialization and savings, and young adults' savings.

Table 3. Correlations among Covariates (N = 694).

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
(1) Head's education level	1.000							
(2) Log of household income	.208***	1.000						
(3) IHS of net worth	.157***	.784***	1.000					
(4) Parental warmth	.090***	.066***	.070***	1.000				
(5) Parents' savings for adolescents	.238***	.154***	.227***	.153	1.000			
(6) Adolescents' allowance	-.014	-.016	-.029	-.024	.013	1.000		
(7) Future orientation	.101*	.049	.062	.051**	.101*	.015	1.000	
(8) Adolescents' savings accounts	.297***	.176***	.263***	.099***	.348***	-.034	.075†	1.000

Notes: Weighted data from the Panel Study of Income Dynamics (PSID) and its 2002 Child Development Supplement (CDS) and Transition to Adulthood (TA) supplement. Data imputed using multiple imputations. Pearson correlation statistics are reported.
† $p < .10$; * $p < .05$; ** $p < .01$; *** $p < .001$

Path analysis is an extension of multiple regression which assumes that relationships between observed variables are linear, additive and asymmetric (Loehlin 1998). Path analysis requires that each dependent variable is completely determined by variables within the system. We used a weighted least squares mean/variance (WLSMV) adjusted estimation and theta parameterization for estimation of a categorical dependent variable in Mplus Version 5.1 (Muthén and Muthén 2007). The WLSMV may produce improved sampling variability and model fit with non-normal and categorical variables when compared with the traditional weighted least squares estimator (Kaplan 2009; Satorra 1992). The use of the WLSMV was appropriate given that the outcome variable—young adults' savings—was categorical. To conduct path analysis, a saturated model was run and adjustments were made. Specifically, pathways leading from parents' savings for child were fixed to zero. Parents' savings pathways were chosen to be fixed to zero because previous work suggests parenting style (e.g., parental warmth) and adolescents' socialization variables (e.g., allowance, adolescents' savings) play a greater role in adolescents' and young adults' savings (Ashby, Schoon, and Webley in press). Following this, a final model was run. All parameter estimates and model fit indices are reported in Table 4 and Figure 1.

Four goodness-of-fit indices were reported: comparative fit index (CFI), Tucker-Lewis index (TLI), the root-mean square error of approximation (RMSEA), and WRMR (Weighted Root Mean Square Residual). CFI and TLI fit indices that exceed .95 indicate that the model provides a good fit to the observed data. RMSEA index at or below .06 is indicative of good fit (Hu and Bentler 1999; Kaplan 2009), despite that RMSEA is sensitive to the number of parameters. WRMR fit index less than .90 indicates a good fit to the observed model (Yu and Muthén 2001).

Missing data

Missing data among the variables might result in limitations regarding generalizability of the findings as well as reduced power (Rubin 1987). Multiple imputation has been recognized as a preferred method for estimating and completing missing data (Little and Rubin 2002). This method assumes that missing data occur randomly. In order to accurately complete missing data, multiple imputation used information from observed variables as well as missing data. To test for differences between missing and non-missing observations, all missing variables were transformed to a miss variable and a regression analysis was run. Data was determined to be missing at random and handled using the MCMC method of imputation in R Version 2.13.1. The MCMC method created five completed, or imputed, data sets with no missing data (Saunders et al. 2006; Schafer and Graham 2002). The imputed data sets were then transferred into Mplus for path analysis. Mplus pooled across the five imputed data sets to reduce bias in the estimations of parametric statistics (Saunders et al. 2006). It should be noted that Mplus does not produce χ^2 model fit statistics or R^2 when using multiply imputed data sets. As such, these indicators are not reported in the tables or the results section.

Results

In this section, we present results from descriptive statistics and from the final path analysis model. Descriptive statistics are reported in Tables 1 and 2. Path analysis results are reported in Table 2 and Figure 1.

Table 2. Percent of Youth who Have Savings at Ages 13 to 17 in 2002 (i.e., Adolescents) and at Ages 18 to 22 (i.e., Young Adults) and the Median Amount Saved in 2007 (N = 694).

Covariates	% of Adolescents with Savings Accounts in 2002	% of Young Adults with Savings Accounts in 2007	Median Savings Amount among Young Adults in 2007
Full Sample	67	85	$600
Adolescents' Variables			
White adolescents†	76	90	$1,000
Black adolescents†	36	63	$100
Male adolescents†	66	85	$600
Female adolescents†	70	85	$700
Currently working for pay†	83	82	$1,000
Not currently working for pay†	64	84	$600
Adolescents above mean age in 2002 (< 15.77)†	76	88	$1,000
Adolescents below mean age in 2002 (≥ 15.77)†	62	83	$500
Adolescents receive allowance for chores	63	81	$600
Adolescents receive allowance only, no chores	77	86	$1,000
Adolescents do not receive any allowance	69	87	$600
Above-average future orientation	70	90	$900
Below-average future orientation	66	77	$431
Adolescents with savings accounts in 2002	--	94	$1,000
Adolescents without savings accounts in 2002	--	68	$120
Household Variables			
Head has college degree or more	83	97	$1,000
Head has some college education	72	93	$800
Head has high school diploma or less	56	73	$500
High-income household (> $79,111)	85	98	$1,500
Moderate-income household ($40,993 ~ $79,111)	77	89	$1,000
Low-income household (< $40,993)	40	70	$180
High net worth household (> $10,000)	80	92	$1,000
Moderate net worth household ($0 ~ $10,000)	23	48	$0
Negative net worth household (< 0)	42	77	$400
Parents' Variables			
Above-average parental warmth	72	87	$736
Below-average parental warmth	64	83	$600
Parents have savings for adolescents	81	92	$1,000
Parents do not have savings for adolescents	49	75	$300

Notes: Weighted data from the Panel Study of Income Dynamics and its 2002 Child Development (CDS) and 2007 Transition into Adulthood (TA) Supplements. Data imputed using multiple imputations. Row percentages are reported. † Denotes variables that are included in this table for descriptive purposes only and are not included in the path analysis.

Results from descriptive statistics

In the weighted sample, 67% of adolescents and 85% of young adults had savings. By the time they reached ages 18 to 22, young adults saved a median of $600. When disaggregated, however, sizable gaps were evident between those with and without savings and their median savings amount. For example, 76% of white adolescents had savings compared with 36% of black adolescents—a 40% gap in having a savings account. The savings account gap decreased by young adulthood (though it remained sizable at 27%), yet the median savings amount gap between White and Black young adults was $900. There were also large gaps by household net worth. Eighty-percent of adolescents from high net worth households had savings compared with 23% from moderate net worth and 42% from negative net worth households, respectively. Five years later, young adults from moderate net worth households had a median savings amount of $0—not enough to afford even minimum initial deposit or monthly balance fees required by many savings accounts. A gap of 32% existed between adolescents whose parents had savings on their behalf (81%) compared to those whose parents did not have savings on their behalf (49%). This gap decreased to 17% by young adulthood and there was a median savings amount gap of $1,000. Young adults who had savings five years earlier had savings more often and higher median savings amounts. Among those who had savings as adolescents, 94% had savings as young adults compared with 68% of those who did not have savings as adolescents—a gap of 26%. Young adults with savings five years earlier also had a median savings amount of $1,000, enough to buy a computer for college or an academic years' worth of college books and software. Their counterparts who did not have savings as adolescents had about enough saved to pay for a cable television bill, cell phone bill, or monthly bus pass—$120.

Results from path analysis of young adults' savings

Table 4 shows the estimated path coefficients for the model displayed in Figure 1. The results of significant path coefficients are reported below.

Young adults' savings

Four pathways were significantly related to young adults' savings. A significant relationship was found between adolescents' savings in 2002 and their savings as young adults in 2007 ($\beta = .769$, $SE = .189$, $z = 4.069$, $p < .001$). There was a significant relationship between adolescents' future orientation and young adults' savings ($\beta = .104$, $SE = .026$, $z = 3.986$, $p < .001$). There was a significant relationship between head of households' education level and young adults' savings ($\beta = .123$, $SE = .038$, $z = 3.272$, $p = .001$). There was also a significant relationship at trend level between the IHS transformation of household net worth and young adults' savings ($\beta = .028$, $SE = .015$, $z = 1.862$, $p = .063$).

Future orientation

There was a significant relationship at trend level between parental warmth and adolescents' future orientation ($\beta = .413$, $SE = .238$, $z = 1.738$, $p = .082$).

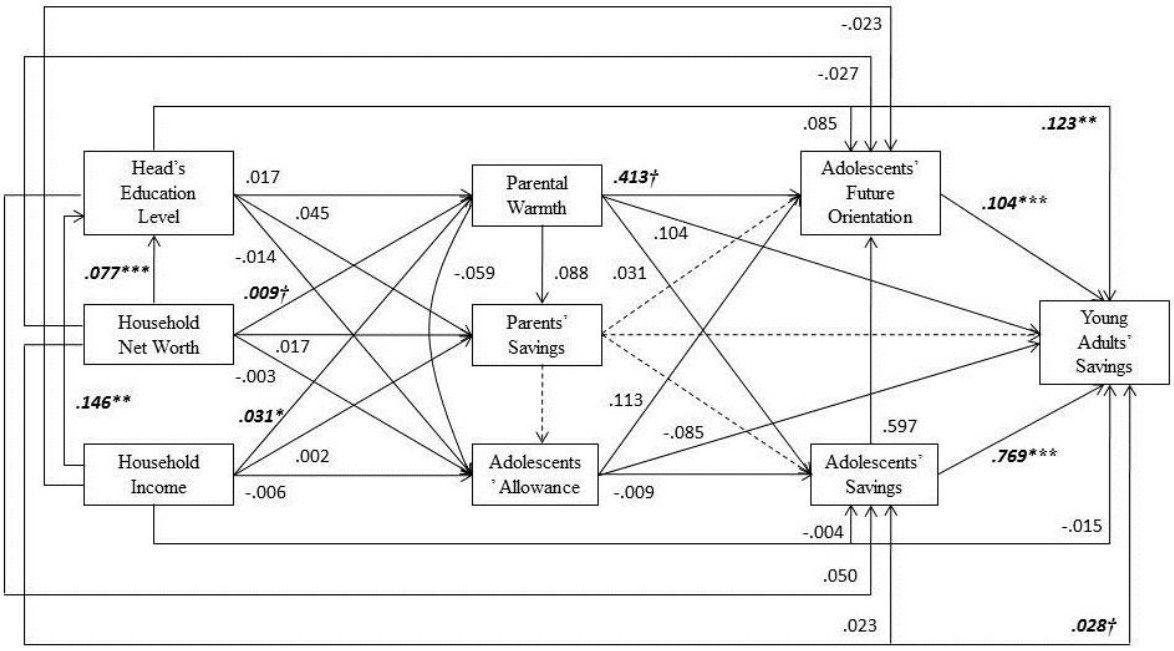
Parental warmth

Two pathways were significantly related to parental warmth. A significant relationship was found between the log of household income and scores on the parental warmth scale (β = .031, *SE* = .013, z = 2.364, p = .018). A significant relationship at trend level was found between the IHS transformation of household net worth and parental warmth (β = .009, *SE* = .005, z = 1.665, p = .096).

Head's education level

There was a significant relationship between the log of household income and head of households' education level (β = .146, *SE* = .043, z = 3.416, p = .001). There was also a significant relationship between the IHS transformation of household net worth and head's education level (β = .077, *SE* = .022, z = 3.506, p < .001).

Figure 1. Path Analysis Model of Young Adults' Savings (*N* = 694).



Notes: Weighted data was used from the Panel Study of Income Dynamics (PSID) and its 2002 Child Development Supplement (CDS) and Transition to Adulthood (TA) supplement. Data was imputed using multiple imputations. Dashed lines represent pathways fixed at zero. β = standardized path coefficient, significant pathways are bolded and italicized. A path analysis was also run with the natural log transformation of household net worth. When the natural log transformation was used, there were significant pathways at p < .10 between the log of household income (β = -.029, *SE* = .017, z = -1.701, p = .089), the log of household net worth (β = .045, *SE* = .023, z = 1.932, p = .053), and head of household's education level (β = .047, *SE* = .027, z = 1.727, p = .084) with adolescents' savings. Other notable differences were that log of household income (β = .024, *SE* = .015, z = 1.569, p = .117) and log of household net worth (β = .015, *SE* = .009, z = 1.575, p = .115) leading to parental warmth were no longer significant. Log of household income (β = .039, *SE* = .054, z = .714, p = .475) was no longer significantly related to head of household's education level. *CFI* = 1.000; *TLI* = 1.070; *RMSEA* = .000; *WRMR* = .208
† p < .10; * p < .05; ** p < .01 *** p < .001

Table 4. Standardized Parameter Estimates for the Path Analysis Model (N = 694).

Path	β	*SE*	z	*p*
Young Adults' Savings in 2007				
Future orientation	.104	.026	3.986	< .001
Adolescents' savings in 2002	.769	.189	4.069	< .001
Adolescents' allowance	-.085	.104	-.817	.414
Parents' savings for child	--	--	--	--
Parental warmth	.104	.106	.984	.325
Head's education level	.123	.038	3.272	.001
Household net worth (IHS)	.028	.015	1.862	.063
Household income (log)	-.015	.041	-.360	.719
Future Orientation				
Adolescents' savings in 2002	.597	.382	1.563	.118
Adolescents' allowance	.113	.191	.588	.557
Parents' savings for child	--	--	--	--
Parental warmth	.413	.238	1.738	.082
Head's education level	.085	.071	1.190	.234
Household net worth (IHS)	-.027	.031	-.870	.384
Household income (log)	-.023	.079	-.291	.771
Adolescents' Savings in 2002				
Adolescents' allowance	-.009	.028	-.318	.750
Parents' savings for child	--	--	--	--
Parental warmth	.031	.043	.730	.465
Head's education level	.050	.037	1.366	.172
Household net worth (IHS)	.023	.015	1.526	.127
Household income (log)	-.004	.009	-.399	.690
Adolescents' Allowance				
Parents' savings for child	--	--	--	--
Parental warmth	-.059	.068	-.867	.386
Head's education level	-.014	.020	-.684	.494
Household net worth (IHS)	-.003	.008	-.356	.722
Household income (log)	-.006	.023	-.251	.802
Parents' Savings for Child				
Parental warmth	.088	.084	1.044	.297
Head's education level	.045	.039	1.142	.254
Household net worth (IHS)	.017	.014	1.211	.226
Household income (log)	.002	.010	.183	.855
Parental Warmth				
Head's education level	.017	.013	1.305	.192
Household net worth (IHS)	.009	.005	1.665	.096
Household income (log)	.031	.013	2.364	.018
Head's Education Level				
Household net worth (IHS)	.077	.022	3.506	< .001
Household income (log)	.146	.043	3.416	.001
Model Fit	*CFI* = 1.000; *TLI* = 1.070; *RMSEA* = .000; *WRMR* = .208			

Notes: Weighted data from the Panel Study of Income Dynamics (PSID) and its 2002 Child Development Supplement (CDS) and Transition to Adulthood (TA) supplement. Data imputed using multiple imputations. Parents' savings fixed at zero. β = standardized path coefficient, *SE* = standard error, z = z score, *p* = p-value.

Summary

The results provide evidence that if adolescents have savings now they will continue to save as young adults and, at least descriptively speaking, may have more money saved. Moreover, adolescents may become more oriented toward the future when their parents display more frequent displays of warmth and affection, which also leads to improved savings as young adults. There were also direct relationships between head of households' education level and household net worth and young adults' savings, suggesting that heads with higher levels of education and households with greater net worth may be able to facilitate young adults' savings in ways not available to households with fewer resources.

Discussion

A contextual developmental approach to economic socialization emphasizes the role of family background and the context of the family. It suggests that family background works through family context to influence adolescent saving. There are three measures of family background used in this study: head's education level, household net worth, and household income. There are also three measures of family context: parental warmth, parents' savings, and adolescents' allowance. In line with economic socialization theory, findings from this study indicate that both household net worth and household income have a small, but nonetheless significant, positive association with parental warmth (net worth is significant at $p < .1$). In regard to young adult savings, no direct relationship is found for family income but there is evidence of an indirect relationship. Parental warmth is positively associated with adolescents' future orientation and adolescents' future orientation is positively associated with young adult's savings (parent warmth is significant at $p < .1$). This is similar to Ashby, Schoon, and Webley (in press). They find no evidence of a direct link between family background and young adults' savings but they do find evidence of an indirect link working through authoritative parenting style (an important component of which is parental warmth).

Receiving an allowance is used as an (admittedly imperfect) proxy for parental economic socialization practices. In this study we find evidence to suggest that economic socialization is either directly or indirectly related to young adults' savings. Consistent with this finding, Ashby, Schoon, and Webley (in press) do not find evidence of a direct link between economic socialization and young adults' savings; however, they do find evidence of an indirect link that is not tested here. Due to differences in the age of the samples, Ashby, Schoon, and Webley (in press) are able to test for the effects that economic socialization has on social background of the adolescents at age 34. They find that it does have a small but significant effect on social background which is associated with adult savings.

As anticipated, descriptive data indicate that low SES adolescents are far less likely to have a savings account than high SES adolescents. In the case of income, while only 40% of low-income have a savings account, 85% of high-income adolescents have an account. Large gaps also exist by parents' education level, net worth, parents' savings and race. It is worth noting that adolescents living in moderate net worth households ($0 to $10,000) actually are less likely to have a savings account than negative net worth households. It might be that negative net worth households have greater access to financial institutions indicated by their use of, and access to, credit (e.g., Nam and Huang 2009). Overall, findings are consistent with previous research on adolescent savings (Friedline in press; Friedline and Elliott 2011; Friedline, Elliott, and Nam 2011).

Findings from this study reveal a positive direct relationship between adolescents' future orientation and young adults' savings. However, previous research is somewhat mixed. Whilst Webley and Nyhus (2006) find a significant relationship between adolescent future orientation and their bank saving, and Friedline, Elliott, and Nam (2011), using aggregate data, find a positive significant relationship between adolescents' future orientation and young adults' savings, when Friedline and Elliott (2011) split the latter sample by race, they find that future orientation is a significant predictor among whites but not among blacks.

The finding that adolescents' savings is a significant, positive predictor of young adults' savings is consistent with previous research using aggregate data (Ashby, Schoon, and Webley in press; Friedline, Elliott, and Nam 2011). This finding may provide some insight into how wealth inequality transferred from one generation to the next has largely been overlooked in the literature.

The account from an economic socialization perspective

That parental warmth is associated with the future orientation of adolescents, and this in turn is associated with young adult's savings, provides some support for an economic socialization approach to saving in this age group. Other research also supports the notion that family context is very important in encouraging an economic orientation that is concerned with the future, an orientation which is itself linked to saving. For example, Otto (2009) finds that authoritative parenting is linked to adolescent saving, though particular parenting practices aimed at encouraging saving are not. She finds that family income is not related to adolescent saving, a result consistent with the findings of Pritchard, Myers, and Cassidy (1989). Similarly, Nyhus and Webley (2007), in a Norwegian sample, also find that an authoritative parenting style is associated both with future orientation and a general tendency to save, rather than spend.

This suggests that it is essential to encourage future orientation as a means to fostering saving and also self-knowledge (since understanding one's weaknesses and using appropriate strategies to overcome them is also key to becoming financially sustainable). Interventions in the family are possible, though costly, which suggests that education in schools could play a powerful role. This is supported by the work of Bernheim, Garrett, and Maki (2001) who studied the effect of household financial decision-making courses in high school and their impact on subsequent asset accumulation in adulthood. They find that asset accumulation is higher in those states that have an appropriate financial educational program than in those that do not. Importantly, Bernheim Garrett, and Maki's (2001) results suggest that there can be a substitution effect between the impact of parents and the impact of teachers, as the effect of the educational program is largest for those who characterized their parents as saving less than average.

The account from an institutional perspective

The descriptive evidence that low SES adolescents are far less likely to have a savings account in the first place along with the finding that adolescents' savings is predictive of young adulthood savings provides some rationale for an institutional perspective. First, there is the evidence of structural failure and that low SES families are more likely to have low capacity for being good economic socializers discussed in the introduction. Second, there is the fact that previous models that primarily use an economic socialization approach are not good predictors of young adult savings.[2] For example, Ashby, Schoon, and Webley (in press) find that their model is a weak predictor of young

adult savings (McKelvey & Zavoina pseudo-R^2 equals 13% of savings in adulthood in the aggregate sample and 21% of savings in the sample of people who live alone). While pseudo r-squares cannot be compared across different datasets, they do suggest that in a particular study a model is either a good predictor of the outcome or not a good predictor. Friedline, Elliott, and Nam (2011), find that their model is a relatively weak predictor of young adult savings (McFadden's pseudo-R^2 equals 17% or 21% depending upon the type of propensity score analysis used). Similarly, Friedline's and Elliott's (2011) model is also a weak predictor of savings (McFadden's pseudo-R^2 equals 14% among white young adult savings and 26% among blacks). None of these studies actually test an institutional model of saving.

Given this, it might be suggested that encouraging more adolescents to save and build assets may require institutions other than the family to be taken into consideration. When talking about institutions within the applied social science context, Sherraden and Barr (2004) state that they can be thought of as "interventions, designed to alter behaviors and outcomes for individuals" (p. 8). From this perspective, adolescents' savings programs are a type of institution. Child Development Accounts (CDAs) have been proposed as a potentially novel and promising savings program meant to promote adolescents' savings and asset accumulation (Boshara 2003; Goldberg 2005; Sherraden 1991). An example of a CDA policy is the America Saving for Personal Investment, Retirement, and Education (ASPIRE) Act. The ASPIRE Act has a number of features that may help augment low SES families' capacity to function as an effective economic socializer. We will use the same framework we used to assess whether or not low SES families are in an unfavorable position to illustrate how the ASPIRE Act can potentially augment their capacity to function as an effect economic socializers.

> *Access*—Creates "KIDS Accounts," or a savings account for every newborn. This would create universal access.
>
> *Information*—Provides adolescents with opportunities for financial education.
>
> *Incentives*—Provides all adolescents with an initial $500 deposit. Moreover, adolescents living in households with incomes below the national median would be eligible for an additional contribution of up to $500 at birth and a savings incentive of $500 per year in matching funds for amounts saved in accounts. Lastly, adolescents would be able to make tax-free withdrawals.
>
> *Facilitation*—Accounts would be opened automatically for all newborns born in the U.S. when their social security card is issued. Further, the initial deposit and match would be automatically deposited in the adolescent's account.
>
> *Expectations*—Adopting a national savings program like proposed in the ASPIRE Act would send the message to all adolescents that Americans save for things like post-secondary education, home ownership, and retirement.
>
> *Restrictions*—First, the ASPIRE Act as it has been proposed would be restricted by age. It is not until adolescents turn 18 that they would be able to make a withdrawal. Second, the accounts would be restricted by use. Adolescents would be restricted to use savings for one

of three uses, (1) post-secondary education, (2) first-time home purchase, and (3) retirement security.

Security—The accounts opened as part of the ASPIRE Act would be federally insured accounts.

As stated, a national savings program would provide adolescents with an account and through initial deposits and matching savings in that account. If it is true, assets beget assets, this can be an important first step in reversing structural inequality in regards to saving and asset accumulation.

Limitations

The results of this study should be considered in light of several methodological limitations. First, data limitations only permitted this study to examine savings for young adults in their early 20's. The mean age of young adults in this study was 20, which is still somewhat early in the transition between adolescence and young adulthood. Young adults at age 20 may not have established themselves as completely independent from their households and some research suggests that the actual age of financial independence occurs later. For example, in 2000 only 50% of males and 61% of females are considered their own heads of households by age 26; whereas, 71% of males and 79% of females have established themselves as heads of households by age 30 (Bell et al. 2007). Research should examine savings for young adults closer to the age of financial independence when they take on more of their own financial responsibilities.

Second, the percentage of adolescents reporting that they received allowances was somewhat low compared to previous studies, such as samples of adolescents from the UK (Doss, Marlowe, and Godwin 1995; Furnham 2001; Furnham and Thomas 1984; Lunt and Furnham 1996; Ward, Wackman, and Wartella 1977). Previous studies have found that roughly two-thirds of adolescents receive allowances. Comparatively, two-thirds of adolescents in our study *did not* receive allowances. This difference might be due in part to the ages of the samples. Previous research often includes young people between ages nine and 11, whereas the mean age of adolescents in this sample was 16—a notably older group of adolescents. Previous research does confirm the trend that younger adolescents receive allowances more often than older adolescents (e.g., Ward, Wackman, and Wartella 1977). Otto (2009) for example reports that, in a British sample, 87% of 11 year olds and 52% of 16 year olds receive an allowance. This provides an explanation as to why such a small percentage reported allowances in this study.

Third, one argument made throughout this paper is the importance of institutions for shaping adolescents' and young adults' savings. Unfortunately, data limitations do not permit the inclusion of many institutional variables and we can only hypothesize their importance based on significant and non-significant pathways in the model. It is likely that young people would benefit from institutional support given that their heads of households' education level and households' net worth play a role in their long-term savings. However, by examining the connection between adolescents' and young adults' savings, we have confirmation that young people would continue to make use of their savings if given early access to institutional supports. That is, young adults are more likely to have savings accounts if they gain access to basic financial services earlier in life.

Fourth, controls were not estimated in the path model. Control variables such as adolescents' race, gender, and age were omitted early in the analysis due to poor model fit. However, the reader should note that these variables have previously been found to be significantly related to adolescents' and young adults' savings (Friedline and Elliott 2011; Friedline, Elliott, and Nam 2011).

Fifth, it is possible that inertia plays a part in explaining the results. Once a savings account is opened, it may well be maintained (whether it is used or not) just because of inertia. This would mean that having a savings account as an adolescent would predict having (but not necessarily using) a savings account as a young adult. However, some banks will close accounts if they have not been used for say a three year period, and bank account switching is more common amongst the young, so inertia is at most likely to be only a partial explanation of our findings.

Conclusion

It is not the authors' contention that either economic socialization theory or institutional theory is an adequate explanation by itself of why youth save. Instead, we believe that each perspective can be a useful tool for understanding why youth save as well as help guide policy development. Identifying interventions that are able to incorporate both perspectives are likely to be most effective. According to Loke and Sherraden (2009, 119), an advantage of asset-based policies targeting youth is that they "may have a multiplier effect by engaging the larger family in the asset-accumulation process. Members of the extended family may learn from this process, and parental expectations for youth may also be positively affected".

Endnotes

[1] Duncan and Morgan (1981, 655) make a similar argument when talking about the relationship between self-efficacy and earnings.

[2] In this study an *R*-square could not be generated in Mplus because of the use of multiple imputations.

References

Acs, G., & Nichols, A. (2010). *America insecure: Changes in the economic security of American Families*. Washington, DC: The Urban Institute.

Aizcorbe, A. M., Kennickell, A. B., & Moore, K. B. (2003). Recent changes in U.S. family finances: Evidence from the 1998 and 2001 Survey of Consumer Finance. *Federal Reserve Bulletin, 89*(1), 1-32.

Ashby, J., Schoon, I., & Webley, P. (2011). Save now, save later? Linkages between saving behavior in adolescence and adulthood. *European Psychologist,* Advance online publication. doi:10.1027/1016-9040/a000067

Barr, M. (2004). *Banking the poor: Policies to bring low-income Americans into the financial mainstream*. Washington, DC: Brookings Institution.

Barr, M., & Blank, R. (2009). *Insufficient funds: Savings, assets, credit and banking among low-income households*. New York, NY: Russell Sage Foundation.

Bell, L. Burtless, G. Gornick, J. & Smeeding, T. (2007). Failure to launch: Cross-national trends in the transition to economic independence. In S. Danziger & C. Rouse (Eds.), *The price of independence: The economics of early adulthood* (pp. 27-55). New York, NY: Russell Sage Foundation.

Beverly, S., & Sherraden, M. (1999). Institutional determinants of saving: Implications for low-income households and public policy. *Journal of Socio-Economics*, *28*, 457-473. doi:10.1016/S1053-5357(99)00046-3

Beverly, S., Sherraden, M., Cramer, R., Williams Shanks, T., Nam, Y., & Zhan, M. (2008). Determinants of asset holdings. In S-M. McKernan & M. Sherraden (Eds.), *Asset building and low-income families* (pp. 89-152). Washington, DC: Urban Institute Press.

Boshara, R. (2003). *Federal policy and asset building*. Washington, DC: New America Foundation. Retrieved from http://www.nrfc.org/ln/documents/Federal%20Policy%20and%20Asset%20Building.pdf

Bowman, S. (2011). Multigenerational interactions in black middle class wealth and asset decision making. *Journal of Family and Economic Issues, 32*(1), 15-26. doi:10.1007/s10834-010-9204-5

Bronfenbrenner, U. (1979). *The ecology of human development*. Cambridge, MA: Harvard University Press.

Bucks, B. K., Kennickell, A. B., & Moore, K. B. (2006). *Recent changes in U.S. family finances: Evidence from the 2001 and 2004 Survey of Consumer Finances*. Retrieved from http://www.federalreserve.gov/PUBS/oss/oss2/2004/bull0206.pdf.

Burbidge, J. B., Magee, L., & Robb, A. L. (1988). Alternative transformations to handle extreme values of the dependent variable. *Journal of the American Statistical Association, 83*(401), 123-127.

Chiteji, N., & Hamilton, D. (2002). Family connections and the black-white wealth gap among middle-class families. *The Review of Black Political Economy*, 30(1), 9-28. doi:10.1007/BF02808169

De Navas-Walt, C., Cleveland, R. W., & Webster, B. H. J. (2002). *Income in the United States: 2002* (P60-221). Washington, DC: U.S. Department of Commerce.

De Navas-Walt, C., Proctor, B. D., & Smith, J. C. (2010). *Income, poverty, and health insurance coverage in the United States: 2009* (P60-238). Washington, D.C.: U.S. Census Bureau.

Devaney, S. A., Anong, S. T., & Whirl, S. E. (2007). Household savings motives. *The Journal of Consumer Affairs*, *41*(1), 174-186.

Doss, V. S., Marlowe, J., & Godwin, D. D. (1995). Middle-school children's sources and uses of money. *Journal of Consumer Affairs, 29*(1), 219-241. doi:10.1111/j.1745-6606.1995.tb00046.x

Duncan, G. & Morgan, J. (1981). Sense of efficacy and subsequent change in earnings—a replication. *The Journal of Human Resources, 16*(4), 649-657.

Frank, M. W. (2009). Inequality and growth in the United States: Evidence from a new state- level panel of income inequality measures. *Economic Inquiry, 47*(1), 55-68. doi:10.1111/j.1465-7295.2008.00122.x

Friedline, T. (in press). Predicting children's savings: The role of parents' savings for transferring financial advantage and opportunities for financial inclusion. *Children and Youth Services Review*, Advance online publication. doi: 10.1016/j.childyouth.2011.09.010.

Friedline, T., & Elliott, W. (2011). Predicting savings for Black and White young adults: An early look at racial disparities in savings and the potential role of Children's Development Accounts (CDAs). *Race and Social Problems, 3*(2), 99-118. doi:10.1007/s12552-011-9046-2

Friedline, T., Elliott, W., & Nam, I. (2011). Predicting savings from adolescence to young adulthood: A propensity score approach. *Journal of the Society of Social Work and Research, 2*(1), 1-22. doi:10.5243/jsswr.2010.13

Furnham, A. F. (1999). The saving and spending habits of young people. *Journal of Economic Psychology, 20*, 677–697. doi:10.1016/S0167-4870(99)00030-6

Furnham, A. F. (2001). Parental attitudes towards pocket money/allowances for children *Journal of Economic Psychology*, *22*, 39-422.

Furnham, A.F. & Thomas, P. (1984). Pocket money: a study of economic education. *British Journal of Developmental Psychology*, *2*, 205-212

Goldberg, F. T. J. (2005). The universal piggy bank: Designing and implementing a system of savings accounts for children. In M. Sherraden (Ed.), *Inclusion in the American dream: Assets, poverty, and public policy* (pp. 303-322). New York, NY: Oxford University Press.

Grinstein-Weiss, M., Spader, J., Yeo, Y. H., Taylor, A., & Freeze, E. B. (2011). Parental transfer of financial knowledge and later credit outcomes among low and moderate homeowners. *Children and Youth Services Review, 33*(1), 78-85. doi:10.1016/j.childyouth.2010.08.015

Hogarth, J. M., Anguelov, C. E., & Lee, J. (2004). Why don't households have a checking account? *The Journal of Consumer Affairs*, *38*(1), 1-34.

Hu, L. T., & Bentler, P. M. (1999). Cutoff criteria for fit indexes in covariance structure analysis: Conventional criteria versus new alternatives. *Structural Equation Modeling, 6*, 1-55. doi: 10.1080/10705519909540118

Institute for Social Research. (2007). *The Child Development Supplement and Transition into Adulthood Study 2007: User guide*. Ann Arbor, MI. Retrieved from http://psidonline.isr.umich.edu/CDS/TA07_UserGuide.pdf#page=13

John, D. R. (1999). Consumer socialization of children: A retrospective look at twenty-five years of research. *The Journal of Consumer Research, 26*(3), 183-213. doi:10.1086/209559

Kaplan, D. (2009). *Structural equation modeling: Foundations and extensions* (2nd ed.). Los Angeles, CA: SAGE.

Kennickell, A. B., & Woodburn, R. L. (1999). Consistent weight design for the 1989, 1992 and 1995 SCFs, and the distribution of wealth. *Review of Income and Wealth, 45*(2), 193- 215.

Kim, J., LaTaillade, J., & Kim, H. (in press) Family processes and adolescents' financial behaviors. *Journal of Family and Economic Issues,* Advance online publication. doi:10.1007/s10834-011-9270-3.

Kochhar, R., Fry, R., & Taylor, P. (2011). *Twenty-to-one: Wealth gaps rise to record highs between Whites, Blacks, and Hispanics*. Washington, DC: Pew Research Center. Retrieved from http://pewsocialtrends.org/files/2011/07/SDT-Wealth-Report_7-26-11_FINAL.pdf

Little, R. J. A., & Rubin, D. B. (2002). *Statistical analysis with missing data* (2nd ed.). New York, NY: John Wiley & Sons.

Loehlin, J. C. (1998). *Latent variable models* (3rd ed.). Mahwah, NJ: Lawrence Erlbaum Associates.

Loibl, C., Grinstein-Weiss, M., Zhan, M., & Red Bird, B. (2010). More than a penny saved: Long-term changes in behavior among savings program participants. *The Journal of Consumer Affairs, 44*(1), 98-126.

Loibl, C., & Scharff, R. L. (2010). Examining the effect of expressing a quantitative goal on consumer savings. *The Journal of Consumer Affairs*, *44*(1), 127-154.

Loke, V., & Sherraden, M. (2009). Building assets from birth: a global comparison of Child Development Account policies. *International Journal of Social Work, 18*(2), 119-129. doi:10.1111/j.1468-2397.2008.00605.x

Lunt, P. K., & Furnham, A.F. (1996). *Economic socialization: the economic beliefs and behaviours of young people*. Cheltenhan; Edward Elgar

Lui, M., Robles, B., & Leondar-Wright, B., Brewer, R., & Adamson, R. (2006). *The color of wealth: The story behind the U.S. racial wealth divide*. New York, NY: New Press.

Lusardi, A. (2000). *Explaining why so many households do not save*. Dartmouth College and the University of Chicago, Harris School of Public Policy Studies. Retrieved from http://harrisschool.uchicago.edu/About/publications/working-papers/pdf/wp_00_1.pdf

Lusardi, A., Mitchell, O.S., & Curto, V. (2010). Financial literacy among the young. *The Journal of Consumer Affairs*, *44*(2), 358-380.

Lusardi, A., Schneider, D. J., & Tufano, P. (2011). *Financially fragile households: Evidence and implications* (Working Paper No. 17072). Cambridge, MA: National Bureau of Economic Research.

Mandell, L. (2010, December). *Child allowances -- Beneficial or harmful?* Paper presented at the Consumer Federation of America 2010 Financial Services Conference, Washington, DC.

Miller, J., & Yung, S. (1990). The role of allowances in adolescent socialization. *Youth & Society*, *22*(2), 137-159.

Mishel, L., Bernstein, J., & Shierholz, H. (2009). *The state of working America 2008 / 2009*. Ithaca, NY: Cornell University Press.

Mortimer, J.T., Dennehy, K., Lee, C., & Finch, M.D. (1994). Economic socialization in the American family: The prevalence, distribution and consequences and allowance arrangements. *Family Relations*, *43*(1), 23-29

Moschis, G. P. (1985). The role of family communication in consumer socialization of children and adolescents. *Journal of Consumer Research, 11*(4), 898-913.

Moschis, G. P. (1987). *A life-cycle perspective*. Lexington, KY, Lexington Books.

Muthén, L. K., & Muthén, B.O. (2007). *Mplus user's guide* (5th Ed.). Los Angeles, CA: Muthén & Muthén.

North, D. C. (1990). *Institutions, institutional change and economic performance*. Cambridge, NY: Cambridge University Press.

Nam, Y., & Huang, J. (2009). Equal opportunity for all? Parental economic resources and children's educational attainment. *Children and Youth Services Review, 31*(6), 625-634. doi:10.1016/j.childyouth.2008.12.002

Nee, V., & Ingram, P. (1998). Embeddedness and beyond: Institutions, exchange, and social structure. In M. Brinton, & V. Nee (Eds.), *The new institutionalism in sociology* (pp. 19- 45). New York: Russell Sage Foundation.

Nyhus, E.K., & Webley, P. (2007). *The relationship between parenting style and adolescents' future orientation and spending preferences*. In P. Repo & E. Pylvänänen (Chairs), Proceedings of the Nordic Consumer Policy research conference in Helsinki: NFCR

Oliver, M. L., & Shapiro, T. M. (2006). *Black wealth / white wealth: A new perspective on racial inequality* (Vol. 10th Anniversary Edition). New York, NY: Routledge.

Otto, A.M.C. (2009). *The economic psychology of adolescent saving* (Doctoral dissertation). University of Exeter, Exeter, UK. Retrieved from https://eric.exeter.ac.uk/repository/handle/10036/83873

Ozmete, E. (2009). *Parent and adolescent interaction in television advertisements as consumer socialization agents*. Retrieved from http://findarticles.com/p/articles/mi_qa3673/is_3_129/ai_n31481897/

Pritchard, M. E., Myers, B. K., & Cassidy, D. J. (1989). Factors associated with adolescent saving and spending patterns. *Adolescence, 24,* 711-723.

Rank, M.R. (2004). *One nation, underprivileged: why American poverty affects us all*. Oxford; Oxford University Press.

Retsinas, N. P., & Belsky, E. S. (2005). *Building assets, building credit: Creating wealth in low-income communities*. Washington, DC: Brookings Institution Press.

Rhine, S. L., Greene, W. H., & Toussaint-Comeau, M. (2006). The importance of check-cashing businesses to the unbanked: Racial/ethnic differences. *The Review of Economics and Statistics, 88*(1), 146-157. doi:10.1162/rest.2006.88.1.146

Rubin, D. B. (1987). *Multiple imputation for nonresponse in surveys*. New York, NY: John Wiley & Sons, Inc.

Satorra, A. (1992). Asymptotic robust inferences in the analysis of mean and covariance structures. *Sociological Methodology, 22*(1), 249-278.

Saunders, J., Marrow-Howell, N., Spitznagel, E., Dore, P., Proctor, E. K., & Pescario, R. (2006). Imputing missing data: A comparison of methods for social work researchers. *Social Work Research, 30*(1), 19-31.

Schafer, J. L., & Graham, J. W. (2002). Missing data: Our view of the state of the art. *Psychological Methods, 7*, 147-177. doi:10.1037/1082-989X.7.2.147

Schreiner, M., & Sherraden, M. (2007). *Can the poor save? Saving and asset building in Individual Development Accounts*. New Brunswick, NJ: Transaction Publishers.

Shapiro, T. M. (2004). *The hidden costs of being African American: How wealth perpetuates inequality*. Oxford: Oxford University Press

Shapiro, T., Meschede, T., & Sullivan, L. (2010). *The racial wealth gap increases fourfold*. Boston, MA: Institute on Assets and Social Policy.

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

Sherraden, M. (2000). From research to policy: Lessons from Individual Development Accounts. *The Journal of Consumer Affairs*, *34*(2), 159-181.

Sherraden, M., & Barr, M. (2005). Institutions and inclusion in saving policy. In N. P. Retsinas & E. S. Belsky (Eds.), *Building assets, building wealth: Creating wealth in low-income communities* (pp. 286-315). Washington DC: Brookings Institution Press.

Sherraden, M. S., & McBride, A. M. (2010). *Striving to save: Creating policies for financial security of low-income families*. Ann Arbor, MI: University of Michigan Press.

Shim, S., Barber, B. L., Card, N. A., Xiao, J. J., & Serido, J. (2010). Financial socialization of first-year college students: The roles of parents, work, and education. *Journal of Youth and Adolescence, 39*, 1457-1470. doi:10.1007/s10964-009-9432-x

Shim, S., Xiao, J. J., Barber, B. L., & Lyons, A. C. (2009). Pathways to life success: A conceptual model of financial well-being among young adults. *Journal of Applied Developmental Psychology, 30*(6), 708-723. doi:10.1016/j.appdev.2009.02.003

Sonuga-Barke, E.J.S., & Webley, P. (1993). *Children's saving: a study in the development of economic behaviour*. Hove, East Sussex: Erlbaum.

Ward, S (1974). Consumer socialization. *Journal of Consumer Research*, 1, 1-14

Ward, S., Wackman, D. B., & Wartella, E. (1977). *How children learn to buy*. London, UK: Sage.

Webley, P. (2005). Children's understanding of economics. In M. Barrett & E. Buchanan-Barrow (Eds), *Children's understanding of society* (pp. 43 -68). Hove, East Sussex: 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. doi:10.1177/001872679104400202

Webley, P., & Nyhus, E. K. (2006). Parents' influence on children's future orientation and saving. *Journal of Economic Psychology, 27*(1), 140-164. doi:10.1016/j.joep.2005.06.016

Williams Shanks, T. (2005). The Homestead Act: A major asset-building policy in American history. In M. Sherraden (Ed.), *Inclusion in the American dream: Assets, poverty, and public policy* (pp. 20-41). New York: Oxford University Press.

Yu, C.-Y., & Muthén, B. (2001). *Evaluation of model fit indices for latent variable models with categorical and continuous outcomes* (Technical report). Los Angeles, CA: University of California, Los Angeles.

Zhan, M. (2006). Assets, parental expectations and involvement, and children's educational performance. *Children and Youth Services Review*, 28, 961-975. doi:10.1016/j.childyouth.2005.10.008

Zhan, M., Anderson, S. G., & Scott, J. (2006). Financial knowledge of the low-income population: Effects of a financial education program. *Journal of Sociology & Social Welfare, 33*(1), 53-74.