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Cash-Flow and Savings Practices of Low-Income Households

Evidence from a Follow-Up Study of
IDA Participants

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Cash-Flow and Savings Practices of Low-Income Households: Evidence from a Follow-Up Study of IDA Participants

This study uses a survey of participants from an Individual Development Account (IDA) matched savings intervention to examine self-reported financial practices (cash flow and savings) five years after the intervention terminated. Latent class analysis produced three groups of financial practices - high, medium, and low functioning. Results showed that some low-income households are carefully managing their finances. Psychological sense of mastery was positively related to high functioning cash-flow and savings. The IDA intervention had no association with latent class membership. Antipoverty interventions should assess the financial practices of participants at the time of service enrollment. Further, social service providers should not assume that households are not already carefully managing their finances.

Key words: IDAs, savings, low-income, financial literacy

Insert text Poverty researchers and policymakers have recently focused on better understanding household financial practices such as savings and checking behavior. Beginning in the 2000s there has been considerable public investment in promoting asset development and financial literacy. Despite the enthusiasm for and expansion of interventions to supplement income transfers and tax credits, there are many gaps in the knowledge about low-income finances. Matched savings programs like Individual Development Accounts (IDAs) provide a rich opportunity to study financial practices of low-income households. The vast majority of matched savings research to date has only considered the financial behaviors of participants (i.e., savings deposits) during the intervention. Further, the relationships between cognitive characteristics and behavioral practices, namely cash-flow and savings, have not been studied extensively.

In this paper, we examine the cash flow management and savings practices of a unique group of low-income households who were associated with an IDA program that operated from 1999-2003. The study adds to the current literature on low-income finances and social services in three ways. First, this study broadens the understanding of financial practices by implementing a latent class analysis (LCA). The LCA is a latent variable technique that is a subset of structural equation modeling. By developing latent variables, LCA expands our knowledge about financial practices beyond the observed nominal yes/no responses. Second, the study builds on a small but growing literature that examines how psychological constructs relate to behavioral financial practices. Third, the study follows-up with IDA graduates, non-graduates, and a comparison group an average of five

years post-intervention. As a result, the study represents only the second study of financial practices among IDA participants after the intervention.

Literature Review

Understanding Household Finances

Rising inequality over the past two decades has led to an increase in the percentage of working poor in the US (Pillai, Basham, & Jayasundara, 2008). During this time, financial products have become more complex with a sometimes overwhelming number of options for how to manage monthly finances and save for the long term (Barr & Blank, 2009). A prerequisite for sound financial management is a certain level of knowledge about economics and the workings of financial systems generally referred to as financial literacy or financial knowledge. Researchers have turned to understanding financial literacy. One study of low-income households showed that education, prior banking history, and English proficiency were positively associated with financial knowledge (Zhan, Anderson, & Scott, 2006). Among the general U.S. population, studies showed that financial literacy has been rather low. Lusardi and colleagues (2010), using the 2007-08 wave of the National Longitudinal Survey of Youth, showed that 27% of 23 to 28 year olds were able to answer three questions about interest rates, inflation, and risk diversification correctly. Rutherford and Fox (2010) found that only 28% of the 458 households aged 18 to 30 sampled from the 2007 Survey of Consumer Finances adequately met their criteria for comprehensive financial wellness based on liquidity and allocation of household assets. On the subjects of credit, savings, and investments, nationally representative survey data showed a positive and significant relationship between financial knowledge and financial practices (Hilgert, Hogarth, & Beverly, 2003).

Among the economic resources that are managed by households, income is by far the most often studied in relation to family outcomes. Low-incomes and negative financial events are said to increase financial strain among families, and this stress tends to negatively effects on children (Conger & Conger, 2002). Higher household income predicted lower levels of economic pressures and lower marital and relationship strain (Mistry, Lowe, Benner, & Chien, 2008). Further, low incomes have been associated with neighborhood crime rates and poor physical health (Romero, Chavkin, Wise, & Smith, 2003; Saegert, Winkel, & Swartz, 2002). For children, household income has been shown to have a positive relationship to achievement test scores and a negative relationship to behavioral problems (Yeung, Linver, & Brooks-Gunn, 2002). Building on the long tradition of studying income effects, there is a need to advance this knowledge by studying how households manage their surplus income (i.e., their financial practices).

Cash-flow and Savings Practices

Prudent management of cash flows and savings are important for at least two household functions. First, resources can be invested in ways that promote development. The assumption is that higher

incomes will lead to more disposable income and thus investment in the home environment. Ultimately these investments promote healthy family and child development (Mayer, 1997). Second, economic resources can buffer against unexpected financial shocks and mitigate family stress (Conger & Donnellan, 2007). In this way careful financial management may lead to more disposable economic resources, and these assets can buffer unexpected financial events and reduce financial strains directly (Rothwell & Han, 2010). Importantly, asset development can only occur *a-posteriori*, after the flows of household income have been managed carefully.

Saving is a fundamental financial practice. In recent years there has been intense research interest in the savings behaviors of low-income households (Beverly et al., 2008). Asset accumulation via savings is beneficial to households for a number of reasons. Savings habits were shown to reduce feelings of financial strain (Loibl, Kraybill, & DeMay, 2011), and financial strain is related to lower marital satisfaction (Dew, 2008). Shortage of assets can constrain the development of human capital (Nam & Huang, 2009), and financial crises were reported to strain the most successful of marriages (Skogrand, Johnson, Horrocks, & DeFrain, 2011). Financial management in the form of budgeting is also important. A stable budget was positively associated with more economic satisfaction in a study of new parents (Walker, 1996).

Research methods employed to understand financial practices have been overly simplistic. National studies have composed indexes of high, medium, and low based on frequencies of nominal positive responses (Hilgert et al., 2003). Mixed-methods studies have also used composite indexes where financial practices were summed to create an index ranging from 0 to 5 (Mistry et al., 2008). These summative approaches are limited because they do not account for interactions between financial practices. For example, in analysis, paying bills on time is treated as equivalent to saving for retirement despite having different implications for the household members.

Mastery and Financial Practices

The psychological concept of mastery may relate to financial behaviors. Mastery is understood as one dimension of self-concept and represents the ability of individuals to control the circumstances of their life. Mastery has a positive association with well-being (Pearlin, Menaghan, Lieberman, & Mullan, 1981; Pearlin, Nguyen, Schieman, & Milkie, 2007). Not many studies have examined how mastery influences financial behaviors among low-income participants. One study showed that (a) self-reported ability to cope and (b) future orientation predicted savings levels after the IDA intervention (Loibl, Grinstein-Weiss, Zhan, & Red Bird, 2010). In a non-low-income sample, Perry and Morris (2005) found a negative relationship between external locus of control and responsible financial management behavior. Perry and Morris suggested that consumers' personal beliefs about control over outcomes motivate them towards goal-oriented actions which positively impact responsible financial management behavior. In another study, Howlett and colleagues (2008) found that self-regulatory state increased the likelihood of retirement savings. Researchers found that sense of mastery promoted resilience to economic adversity in a longitudinal study of Midwest families

(Conger & Conger, 2002). In sum, it is reasonable to assume that when people believe they have control over their lives, they are more likely to implement financial practices that will benefit their individual and family well-being in the short- and long-term.

Individual Development Accounts and Financial Practices

The IDA is an example of a social policy intervention designed to increase economic security of low-income households. IDAs were originally proposed by (Sherraden, 1991) as a lifelong savings plan to address poverty through asset accumulation. As policy, IDAs were legislated as a demonstration project by the Assets for Independence Act (AFIA) in 1998 (*Assets for Independence Act of 1998, S.2206*, 1998). In implementation, IDAs have taken the form of short-term (usually two to three years) matched savings accounts designed to increase savings and asset ownership. Most participants must meet regular savings goals and attend financial literacy classes. Since AFIA's passage, the number of IDAs has exploded nationwide with over 40 states having enacted some type of IDA policy (Greenberg & Patel, 2006).

Most of the research on IDAs has examined performance in the IDA program. The key finding from IDA research is that low-income households can and do save when provided the correct institutional structures and incentives (Beverly et al., 2008; Schreiner & Sherraden, 2007). Research on IDA programs showed that targeted intervention was successful at forming savings habits (Loibl et al., 2011). The impact of financial literacy on savings in IDAs is mixed. One study indicated a positive impact of financial literacy up to 10 hours on savings (Schreiner & Sherraden, 2007). In a Canadian experimental study of a similar matched savings program, financial literacy showed no impact on improving savings outcomes (Leckie, Hui, Tattrie, & Cao, 2010).

Very little is known about how financial practices of IDA participants change over time, if at all. One study showed that, after ten years, successful IDA participants (those who made a matched withdrawal) had a higher level of savings than a group of unsuccessful participants (no matched withdrawal) and a general population comparison group (Loibl et al., 2010). Despite the overwhelming evidence that IDAs can have positive influence on participants both within and after program participation, some researchers caution that stronger research designs are needed before conclusions about IDA efficacy can be reached (Richards & Thyer, 2011).

The current study examines the financial practices of IDA participants post-participation. The study is guided by the following questions:

1. What are the cash flow and savings practices of former IDA participants and non-participants and how can the practices be classified into latent classes?
2. To what extent is mastery associated with latent classes of financial practices?
3. To what extent is IDA program participation associated with latent classes of financial practices?

Method

Design

Data were collected in a survey of 758 low-income households who applied to an IDA program that was offered throughout the state of Hawaii. Administrative data permit the comparison of three groups. The first group consisted of IDA participants who made a matched withdrawal (referred to hereafter as graduates). The second group consisted of IDA participants who enrolled in the program but did not make a matched withdrawal (non-graduates). The third group consisted of persons who applied to the IDA program but never opened an account and did not participate in the intervention (comparison group).

The Intervention

The IDA program recruited participants from the five major islands in the State of Hawaii through public advertisement and referral. All participants demonstrated Native Hawaiian ethnicity with a birth certificate. Native Hawaiians and Other Pacific Islanders (NHOPI) were first recognized as an independent ethnic category by the 2000 US Census. Importantly, there is an observed large wealth gap between Native Hawaiians and Hawaii-born others (Ong, 2006). Program participants enrolled between 1999 and 2003. To be eligible, total household incomes must have been less than 200% of the Federal poverty guidelines, and owned assets worth less than an estimated value of \$10,000 (excluding the value of the primary residence and one vehicle). For a family of four living in Hawaii in 2008, the 200% poverty threshold was \$44,000 ($21,200 * 2$) before income tax (Department of Health and Human Services, 2008).

Upon enrollment, program participants identified one asset goal, declared a monthly savings target, and opened an account at one of two financial institutions. The qualified asset goals in the IDA program were first-time home purchase, postsecondary education fees, business costs, and home repair. The account term was 24 months. Each participant was provided generalized case management, and participants were required to attend general and asset specific financial literacy classes. The match rates were 3:1 for home ownership, and 2:1 for education, business, and home repair. A match cap was set at \$500 per 12 months. Therefore, a participant saving towards home ownership could save up to \$1,000 over two years and, upon meeting other program requirements, receive a subsidy of \$3,000 for a total matched withdrawal of \$4,000.

Data were collected in a 2008 follow-up survey. The survey was multi-modal—self-administered mail, internet, and telephone—and followed guidelines outlined in the Tailored Design Method (Dillman, 2007). To encourage survey participation, a \$1 cash prepaid incentive was included and a written promise was made in each mail contact that a small gift would be sent upon receipt of the completed survey. Of the sample of 758 individuals who applied to the IDA program between 1999 and 2003, a total of 328 (43%) responded to the survey in 2008. Similar response rates were

produced in other follow-up studies of IDA populations (Loibl et al., 2010). A series of analyses revealed that differences between survey responders and non-responders for demographic variables (gender, age, race/ethnicity, marital status, household size, human capital, employment status, health insurance, receipt of TANF, household income, savings goal or year enrolled in program) were virtually non-existent at the $p < .05$ level. Responders were more likely to live in rural areas of the state $\chi^2(1, N = 758) = 9.51; p = .01$, and be program graduates $\chi^2(1, N = 758) = 7.61; p = .01$.

Among the 328 individuals who responded to the survey, 96 were graduates. These program participants attended financial literacy training, made regular contributions to the savings account, and ultimately made a matched withdrawal. The sample included 156 non-graduates from the IDA program. This group participated in the program but for unobserved reasons did not make a matched withdrawal. A total of 76 survey responses were received from the comparison group of households that were income-eligible and received other services from the organization but never opened an account. This group is a reasonable comparison as they were demographically similar to the graduates and non-graduates, but did not receive the financial literacy, case management services, or matched incentives provided in the intervention.

Measurement

Financial practices. The survey asked detailed questions about household financial practices. Questions were adapted from the December 2001 wave of the Survey of Consumers commissioned by the Federal Reserve Board and conducted by the University of Michigan (also used in Hilgert et al., 2003, another study of financial knowledge and behavior). This study used nine dichotomous (yes/no) questions about cash-flow management and saving. Specifically, the questions inquired about checking account ownership, balancing checkbook monthly, paying bills on time, keeping regular financial records, maintaining a regular budget, ownership of saving account, saving or investing each paycheck, saving for long-term goals, and maintaining an emergency fund.

Mastery. The concept of mastery was measured with a 7-item scale (Pearlin et al., 1981). Items ranged from 1 to 4 (1 = strongly agree; 2 = agree; 3 = disagree; 4 = strongly disagree) and were summed in a composite score ranging from 7 to 28, with a higher score indicating a higher level of mastery. Mastery is defined as the extent “to which people see themselves as being in control of the forces that importantly affect their lives” (Pearlin et al., 1981, p. 340). The reliability of the mastery scale was measured with Cronbach’s alpha and was .86 for graduates, .79 for non-graduates, and .69 for the comparison group.

Data Analysis

The sample characteristics and financial practices were described in the first step of the analysis. The second step performed a Latent Class Analysis (LCA) to categorize financial practices into unobserved latent groups by producing conditional probabilities of class membership. LCA was

used because of its “person-centered” as opposed to a “variable-centered” research orientation (Bergman, 2001). The goal of the LCA approach is to classify the study participants into different types of financial practitioners. The LCA model was tested using Mplus 5 software (Muthén & Muthén, 2007). Third, two ordinal logistic regression were used to examine which socio-demographic variables were associated with class membership. The dependent variable was latent class membership.

Results

The key demographic characteristics of the sample analyzed by the three groups are presented in Table 1. Two records were removed from the dataset due to missing values resulting in a final sample size of $N = 326$. Results of bivariate analysis reveal minimal differences between groups on the observed variables. The average age was highest in the non-graduate group at 34.50. The majority of the sample was female ($n = 228$; 70%), and married ($n = 180$; 55%). Most of the sample reported having more than a high school education (some college $n = 89$; 27%) or a two-year degree or more ($n = 118$; 36%). A significant difference in education levels was noted between groups. Among IDA graduates, a relatively low percentage (29%; $n = 28$) reported an educational level of high school or less compared to percentages among the comparison (32%; $n = 24$) and non-graduate (43%; $n = 66$) groups. The majority were full-time employed 69% ($n = 226$). The monthly household income of the IDA graduate group was comparatively higher than that of the other two groups. Also, the IDA graduates had the highest average mastery score (23.33), but the difference was not statistically significant.

Financial Practices

The dichotomous descriptive financial practices are presented in Figure 1, sorted from highest to lowest percentage reporting yes. Not surprisingly most of the sample reported owning checking (90%; $n = 293$) and savings (83%; $n = 269$) accounts. Over three-fourths of the sample (77%; $n = 249$) reported paying household bills on time. The results showed that between 50% and 62% of the respondents were keeping a budget ($n = 200$; 62%), balancing their checking account ($n = 191$; 59%), saving regularly ($n = 189$; 58%), tracking expenses ($n = 182$; 56%), and saving for long term goals ($n = 170$; 52%). Finally, less than 40% ($n = 123$) of the sample maintained an emergency savings fund.

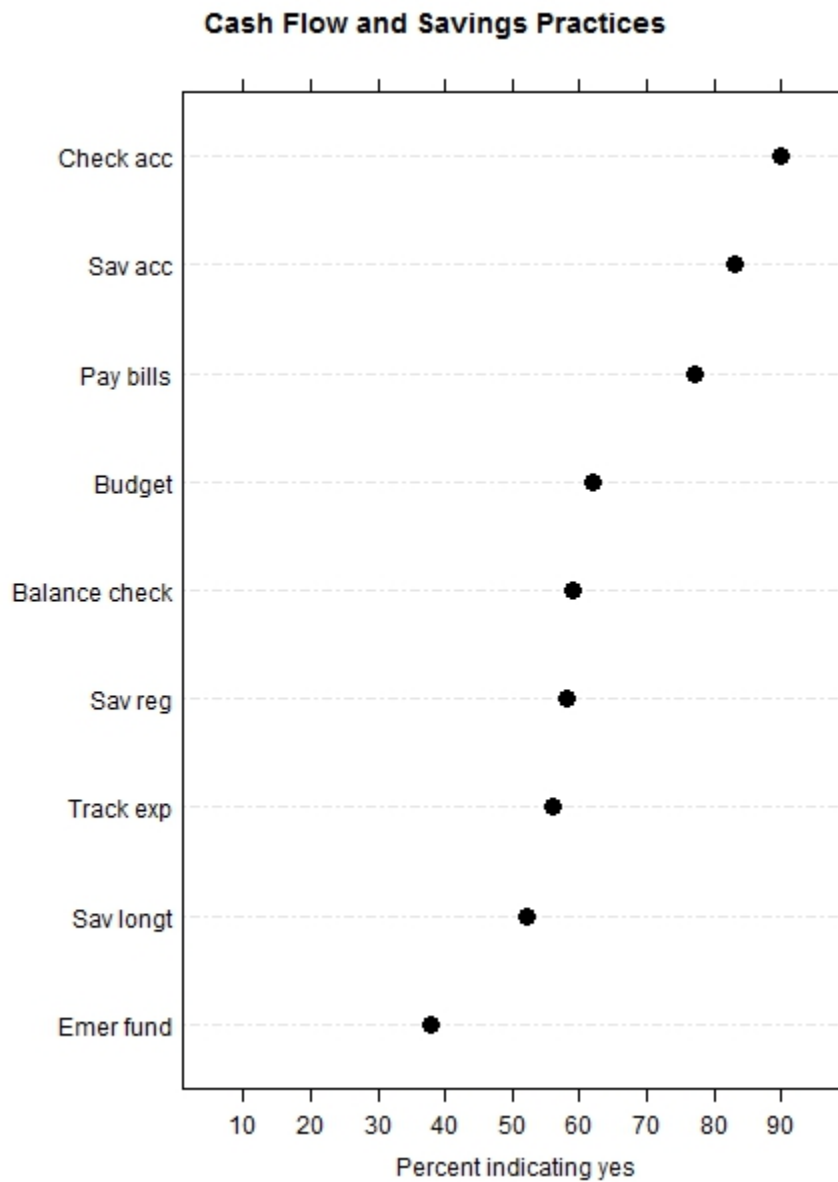
Table 1. Description of Sample

Variable	Comparison <i>n</i> = 76	Non graduate <i>n</i> = 154	Graduate <i>n</i> = 96
Age	33.20 (8.97)	34.51 (10.73)	33.88 (10.77)
Female	53 (70)	114 (75)	61 (64)
Marital status			
Other	15 (20)	30 (20)	16 (17)
Single	21 (28)	40 (26)	23 (24)
Married	40 (53)	83 (54)	57 (59)
Number children	2.41 (1.92)	2.27 (1.85)	2.01 (1.77)
Education			
High school or less	24 (32)	66(43)	28 (29)*
Some college	19 (25)	44 (29)	26 (27)
2 year degree or more	33 (43)	43 (28)	42 (44)
Employment status			
Other	10 (13)	27 (18)	23 (24)
Part time	9 (12)	19 (12)	10 (10)
Full time or more	56 (75)	107 (70)	66 (66)
Monthly household income	3779 (2504)	3692 (2158)	4253 (2784)
Master summary score	22.53 (3.44)	23.24 (3.43)	23.33 (3.91)

Note. Numbers reported are frequencies and percents or means and standard deviations.

* = $p < .05$

Figure 1. Dotplot of financial practices.

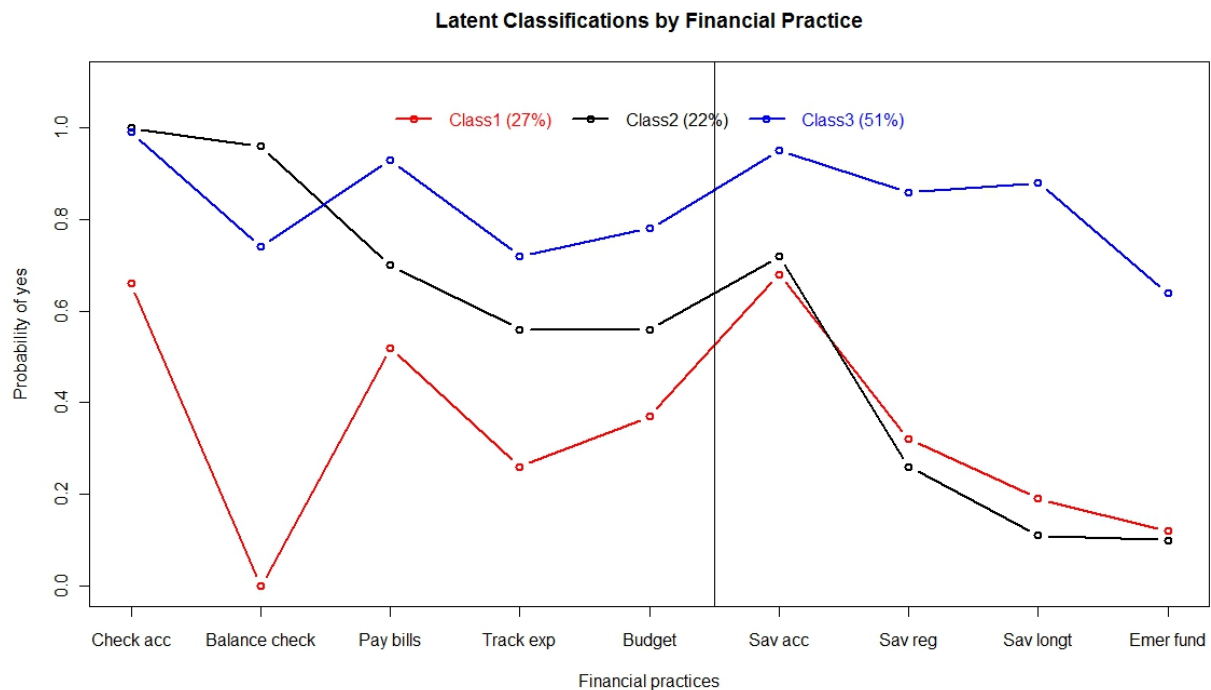


LCA Findings

Several LCA models were tested to find the best-fitting model. A three-class model was found to be the most appropriate fit for the data (BIC = 3326.05; AIC = 3216.05; Entropy = .82). Class 3 ($n=166$; 51%) was termed *high functioning* and had a .64 or higher probability of responding affirmatively (average = .83) to all 9 items. The second class, Class 2 ($n = 73$; 22%), was termed the *cash-managers-but-not-savers* because they responded affirmatively to most cash-flow questions (average = .75) but

negatively to the savings questions (average = .29). The final classification constituted 27% of the sample ($n = 89$). Class 1 was labeled *low functioning* because the probability for answering affirmatively was consistently low across cash-flow and savings items (average = .31). Figure 2 is a line graph showing class membership by the conditional probabilities of answering affirmatively to the cash-flow and savings questions.

Figure 2. Latent class analysis by cash-flow and savings practices.



Predicting Class Memberships

The next multivariate analysis provided insight into factors related to latent classification. Class membership was the dependent variable with three levels (1, 2, and 3). Categorical variables were dummy-coded for relevant nominal variables (marital status, education, and employment status). The first model (Table 2) analyzed the predictors of latent class membership among only the IDA graduates. The model was significant (χ^2 [df = 11, $n = 90$] = 32.83; $p < .01$). As age increased, the expected ordered log odds of being in the highest latent class decreased ($b = -.06$; OR = .94). Additionally, number of children in the household had a negative influence on latent class membership. As the number of children increased, we expect a .42 decrease in the expected log odds of moving to the next latent class (i.e., from low to medium, or medium to high). The mastery variable was a very important predictor ($b = .18$; OR = 1.22). No statistically significant effect of household income on latent class was observed for IDA program graduates.

Table 2. Ordinal Logistic Regression Results Predicting Class Membership for IDA Graduates

Variable	Model 1 Estimate (<i>SE</i>)	OR	95% CI
Intercept 3	-5.13 (3.67)	--	--
Intercept 2	-3.56 (3.65)	--	--
Age	-0.06 (0.03)*	0.94	0.89-0.99
Female (other)	0.13 (0.54)	1.14	0.39-3.30
Marital status (married)			
Single	-0.32 (0.64)	0.73	0.21-2.56
Other	-0.47 (0.72)	0.63	0.15-2.58
Number of children	-0.42 (0.16)*	0.66	0.48-0.91
Education (high school or less)			
Some college	1.17 (0.63)	3.22	0.93-11.16
2 yr degree or more	1.01 (0.59)	2.74	0.87-8.66
Employment (other)			
Part time	-0.62 (0.82)	0.54	0.11-2.66
Full time	0.49 (0.59)	1.63	0.51-5.20
Household income	0.37 (0.40)	1.45	0.66-3.21
Mastery summary score	0.18 (0.07)**	1.2	1.05-1.37
<i>N</i>	90		
Max rescaled <i>R</i> -square	0.35		
Likelihood ratio chi-square	32.83***		

Note. Reference categories in parentheses. Household income variable is a natural log.

** = $p < .05$; *** = $p < .01$

Model 2 (Table 3) included IDA graduates, non-graduates, and the comparison group. The model was significantly different from zero (χ^2 [df = 13, $n = 275$] = 45.92; $p < .01$). Age was negatively related to latent class membership ($b = -.03$; OR = .97). Income was positively associated with class membership ($b = .65$; OR = 1.92). Further, mastery was found to be an important predictor of a higher class membership ($b = .14$; OR = 1.15); in other words, the expected ordered log odds increased .14 for every unit increase in the mastery scale. There was no statistically significant difference in latent class membership for the IDA graduates and non-graduates in relation to the IDA comparison group.

Table 3. Ordinal Logistic Regression Results Predicting Class Membership

Variable	Model 2		
	Estimate (<i>SE</i>)	OR	95% CI
Intercept 3	-6.81 (1.92)	--	--
Intercept 2	-5.65 (1.90)	--	--
Age	-0.03 (0.01)*	0.97	0.94-0.99
Female (other)	-0.09 (0.28)	0.92	0.53-1.58
Marital status (married)			
Single	-0.51 (0.31)	0.60	0.32-1.11
Other	-0.23 (0.37)	0.80	0.38-1.66
Number of children	-0.12 (0.07)	0.90	0.78-1.02
Education (high school or less)			
Some college	-0.05 (0.32)	0.95	0.51-1.77
2 yr degree or more	0.28 (0.32)	1.32	0.71-2.45
Employment (other)			
Part time	-0.63 (0.47)	0.53	0.21-1.33
Full time	0.11 (0.37)	1.13	0.55-2.32
Household income	0.65 (0.21)**	1.92	1.28-2.88
Mastery summary score	0.14 (0.04)**	1.15	1.06-1.23
IDA (comparison)			
Graduates	0.00 (0.34)	1.01	0.51-1.97
Non-graduates	0.10 (0.31)	1.10	0.60-2.04
<i>N</i>	275		
Max rescaled <i>R</i> -square	0.21		
Likelihood ratio chi-square	45.92***		

Note. Reference categories in parentheses. Household income variable is a natural log.

* = $p < .05$; ** = $p < .01$

Discussion

Researchers have called for more research into the financial practices of low-income households (Zhan et al., 2006). The key finding from this study is that self-reported financial practices of low-income households are diverse and complex, which is in line with previous research. Our methods provide a sophisticated analysis of financial practices that extends the current knowledge of summative scales. We observed three distinct clusters when the latent associations between the nine financial practice variables were analyzed. We see that high-functioning households (Class 3) manage their finances very carefully despite living under economic constraints. Like the high-functioning class, Class 2 manages their cash-flows carefully, for example, paying bills on time and balancing their checkbook. However, Class 2 struggles to save regularly, maintain an emergency fund and save for long-term goals. We suspect that the low-functioning (Class 1) participants are struggling to fully participate in the economy. This sub-group may be at the highest risk for long-term and intergenerational poverty. These participants rarely tracked expenses and the probability of saving

for long-term goals was less than 35%. This diversity in household financial management practices suggests that low-income households may need social services that are carefully tailored to their financial circumstances.

The second main finding is the relationship between psychological sense of self and financial practices. The ordinal logistic regression showed that sense of mastery was a consistently strong predictor of being in the high-performing class of financial practices. Not surprisingly, persons with high levels of mastery are more likely to self-report financial practices that will make them more economically secure in the long run. On the contrary, persons with low sense of mastery may face considerable barriers to economic mobility and social development. In addition to financial literacy interventions, these individuals and families may need more intense psycho-social interventions that build a sense of self-efficacy especially around financial matters. It is possible that these individuals exhibit poor financial practice habits, which have been shown to be difficult to break (Verplanken & Wood, 2006).

The third main finding is that IDA graduation appeared to have no significant relationship with financial practices. One on hand, the finding that IDA graduation was not related to financial practices somewhat contradicts the existing literature that has shown a more positive impact of IDA programs on savings habits and savings levels (Loibl et al., 2011). On the other hand, because of research design limitations (non-randomization, limited response rate), we cannot rule out the possibility that the IDA intervention led to positive long-term behavior changes. Using data from the same program, previous research showed a positive program impact on net worth and home ownership (Rothwell, 2011).

Limitations

This study has many of the limitations plaguing similar applied social research. The sample sizes are small but comparable to the other follow-up study of IDA participants (Loibl et al., 2010). Second, the comparison group was not randomized which creates problems for causal inference. Self-selection cannot be ruled out. In other words, unobserved characteristics (motivation, financial knowledge) may have influenced IDA enrollment (or decision not to participate). Third, the financial practices are self-reported. Fourth, the study lacks data on performance in the IDA program. Certain program variables such as hours of financial literacy and monthly savings would greatly enhance our ability to understand which institutions affect certain financial practices in the long term.

Social Service Implications

Financial literacy in the population is alarmingly low. Evidence-based interventions are needed to bolster the financial knowledge and financial practices of all households with the goal of building more widespread economic stability. Providing more and better access to financial services is a start.

Innovative interventions such as automated savings plans offered by employers (Autosave) and programs that reduce banking barriers for low-income households (BankOn) show promise for broadening access to financial institutions (Rothwell & Goren, 2011).

“One size fits all” interventions for asset building and financial literacy are not appropriate given the heterogeneity of current financial practices found in this study. The needs of the high-functioning class will be much different than the other two classes. Policymakers must consider the diversity of needs among low-income savers (Grinstein-Weiss, Yeo, Despard, Casalotti, & Zhan, 2010). Interventions should assess the financial practices of participants as they enter a program. These assessments ought to include questions that go beyond simple ownership of accounts and account balances. A richer and more in-depth assessment of the financial practices of families will aid interventions to leverage the positive aspects of financial practices and identify barriers to other financial practices not being implemented. Interventions for low-income households should not assume that households are not carefully managing their household finances.

It is widely acknowledged that psychology matters when it comes to managing household finances. Conceptual frameworks for understanding financial literacy include four building blocks: (a) knowledge, (b) skills, (c) responsible financial decisions, and (d) confidence (Canada Task Force on Financial Literacy, 2011). The positive relationship between mastery and financial practices that we found suggests that interventions need to assess psychological states in addition to behavioral practices.

Implications for Research

This study documents a need to refine theories about the relationship between financial literacy and financial practices. Previous studies show that financial knowledge is highly correlated with behavior (Hilgert et al., 2003), but the mechanisms and processes are poorly understood. Under what conditions does high literacy lead to prudent practices? What conditions prevent positive financial behavior despite high literacy? IDA programs provide an ideal social laboratory to study these questions.

Developing better measures of mastery might improve our understanding of the psychological processes related to financial practices. The concept of self-efficacy, similar to mastery in our study, has been criticized as being too global (Bong & Skaalvik, 2003). It may be possible to have a high global sense of mastery but have poor mastery on domain-specific areas. The development of a scale to measure a sense of financial mastery would advance research on financial practices.

The temporal influence of financial interventions is worth researching. We suspect that a study using a similar dependent variable of cash-flow and savings practices during the IDA program might reveal significant differences between participants and non-participants. This study’s findings suggest that differences in financial practices disappear over time in the absence of the institutions provided

in the IDA program, if the differences ever existed. This is not surprising, as behavior change is cyclical and likely to change over time. Prospective research investigating the temporal nature of these behaviors is needed.

References

- Assets for Independence Act of 1998, S.2206*. (1998). Retrieved from <http://thomas.loc.gov/cgi-bin/bdquery/z?d105:SN02206:@@@D&summ2=m&|TOM:/bss/d105query.html>
- Barr, M. S., & Blank, R. M. (2009). Savings, assets, credit, and banking among low-income households: Introduction and overview. In R. M. Blank & M. S. Barr (Eds.), *Insufficient funds: Savings, assets, credit, and banking among low-income households* (pp. 1-22). New York: Russell Sage Foundation.
- Bergman, L. (2001). A person approach in research on adolescence: Some methodological challenges. *Journal of Adolescent Research, 16*(1), 28–53.
- Beverly, S., Sherraden, M., Cramer, R., Shanks, T. R., Nam, Y., & Zhan, M. (2008). Determinants of asset holdings. In S. M. McKernan & M. Sherraden (Eds.), *Asset building and low-income families* (pp. 89–151). Washington, DC: Urban Institute Press.
- Bong, M., & Skaalvik, E. M. (2003). Academic self-concept and self-efficacy: How different are they really? *Educational Psychology Review, 15*(1), 1–40.
- Canada Task Force on Financial Literacy. (2011). *Canadians and Their Money: Building a brighter financial future*. Ottawa, ON. Retrieved from <http://www.financialliteracyincanada.com/canadians-and-their-money.html>
- Conger, R., & Conger, K. (2002). Resilience in Midwestern families: Selected findings from the first decade of a prospective, longitudinal study. *Journal of Marriage and Family, 64*, 361-373.
- Conger, R., & Donnellan, M. (2007). An interactionist perspective on the socioeconomic context of human development. *Annual Review of Psychology, 58*, 175–199.
- Department of Health and Human Services. (2008). 2008 HHS Poverty Guidelines. *Federal Register, 73*(15), 3971–3972.
- Dew, J. (2008). Debt change and marital satisfaction change in recently married couples. *Family Relations, 57*(1), 60–71.
- Dillman, D. (2007). *Mail and internet surveys: The tailored design method* (2nd ed.). Hoboken, NJ: John Wiley & Sons.
- Greenberg, M., & Patel, N. (2006). *Coordinating Individual Development Accounts and The Workforce Investment Act to increase access to postsecondary education and training* (CSD Policy Report 06-09). St. Louis, MO: Washington University, Center for Social Development.

- Grinstein-Weiss, M., Yeo, Y. H., Despard, M. R., Casalotti, A. M., & Zhan, M. (2010). Does prior banking experience matter? Differences of the banked and unbanked in Individual Development Accounts. *Journal of Family and Economic Issues*, 31(2), 212–227.
- Hilgert, M., Hogarth, J., & Beverly, S. (2003). Household financial management: The connection between knowledge and behavior. *Federal Reserve Bulletin*, 89(7), 309–322.
- Howlett, E., Kees, J., & Kemp, E. (2008). The role of self-regulation, future orientation, and financial knowledge in long-term financial decisions. *Journal of Consumer Affairs*, 42(2), 223–242. doi:10.1111/j.1745-6606.2008.00106.x
- Leckie, N., Hui, T. S., Tattrie, D., & Cao, H. (2010). *Learning to save, saving to learn*. Ottawa: Social Research and Demonstration Corporation. Retrieved from <http://www.sedi.org/DataRegV2-unified/sedi-Publications/learnSave%20final%20report%20English.pdf>
- 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. *Journal of Consumer Affairs*, 44(1), 98–126.
- Loibl, C., Kraybill, D. S., & DeMay, S. W. (2011). Accounting for the role of habit in regular saving. *Journal of Economic Psychology*, 581–592.
- Lusardi, A., Mitchell, O. S., & Curto, V. (2010). Financial literacy among the young. *Journal of Consumer Affairs*, 44(2), 358–380.
- Mayer, S. (1997). *What money can't buy: Family income and children's life chances*. Cambridge, MA: Harvard University Press.
- Mistry, R., Lowe, E., Benner, A., & Chien, N. (2008). Expanding the family economic stress model: Insights from a mixed-methods approach. *Journal of Marriage and Family*, 70(1), 196–209.
- Muthén, L., & Muthén, B. (2007). *Mplus user's guide, Fifth edition*. Los Angeles, CA: Muthén & Muthén.
- 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.
- Ong, P. (2006). Trouble in paradise: The economic marginalization of Native Hawaiians. In J. Nembhard & N. Chiteji (Eds.), *Wealth accumulation and communities of color in the United States* (pp. 155–172). Ann Arbor: University of Michigan Press.

- Pearlin, L. I., Menaghan, E. G., Lieberman, M. A., & Mullan, J. T. (1981). The stress process. *Journal of Health and Social Behavior*, 22(4), 337–356.
- Pearlin, L. I., Nguyen, K. B., Schieman, S., & Milkie, M. A. (2007). The life-course origins of mastery among older people. *Journal of Health and Social Behavior*, 48(2), 164–179.
- Perry, V., & Morris, M. (2005). Who is in control? The role of self-perception, knowledge, and income in explaining consumer financial behavior. *Journal of Consumer Affairs*, 39(2), 299–313. doi:10.1111/j.1745-6606.2005.00016.x
- Pillai, V., Basham, R., & Jayasundara, D. (2008). A multivariate analysis of the working poor in Texas: Implications for policy. *Journal of Social Service Research*, 35(1), 11–22. doi:10.1080/01488370802473831
- Richards, K. V., & Thyer, B. A. (2011). Does Individual Development Account participation help the poor? A review. *Research on Social Work Practice*.
- Romero, D., Chavkin, W., Wise, P. H., & Smith, L. A. (2003). Low-income mothers' experience with poor health, hardship, work, and violence. *Violence against women*, 9(10), 1231–1244.
- Rothwell, D. W. (2011). The case for asset-based interventions with Indigenous Peoples: Evidence from Hawai'i. *International Social Work*, 54(1), 35–50.
- Rothwell, D. W., & Goren, A. (2011). *Exploring the relationship between asset holding and family economic strain*. Washington, DC: New America Foundation. Retrieved from http://assets.newamerica.net/sites/newamerica.net/files/articles/Rothwell_Goren_AssetsEconomicStrain_Final_7-2011.pdf
- Rothwell, D. W., & Han, C. K. (2010). Exploring the relationship between assets and family stress among low-income families. *Family Relations*, 59(4), 396–407. doi:10.1111/j.1741-3729.2010.00611.x
- Rutherford, L. G., & Fox, W. S. (2010). Financial wellness of young adults age 18–30. *Family and Consumer Sciences Research Journal*, 38(4), 468–484.
- Saegert, S., Winkel, G., & Swartz, C. (2002). Social capital and crime in New York City's low-income housing. *Housing Policy Debate*, 13(1), 189–226.
- Schreiner, M., & Sherraden, M. (2007). *Can the poor save? Saving and asset accumulation in Individual Development Accounts*. Piscataway, NJ: Transaction Publishers.
- Sherraden, M. (1991). *Assets and the poor: A new American welfare policy*. Armonk, NY: M.E. Sharpe.

- Skogrand, L., Johnson, A. C., Horrocks, A. M., & DeFrain, J. (2011). Financial management practices of couples with great marriages. *Journal of Family and Economic Issues*, *32*(1), 27–35.
- Verplanken, B., & Wood, W. (2006). Interventions to break and create consumer habits. *Journal of Public Policy & Marketing*, *25*(1), 90–103.
- Walker, C. M. (1996). Financial management, coping and debt in households under financial strain. *Journal of Economic Psychology*, *17*(6), 789–807.
- Yeung, W. J., Linver, M. R., & Brooks-Gunn, J. (2002). How money matters for young children's development: Parental investment and family processes. *Child Development*, *73*(6), 1861–1879.
- Zhan, M., Anderson, S., & Scott, J. (2006). Financial management knowledge of the low-income population. *Journal of Social Service Research*, *33*(1), 93–106. doi:10.1300/J079v33n01_09