The Influence of Childhood Experiences on Financial Capability in Young Adulthood

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Introduction

U.S. consumers bear an increasing amount of personal responsibility when it comes to financial decisions in today's complex financial market. Transitions to defined contribution plans in place of defined benefit structures have fundamentally changed the way in which Americans plan for retirement. A steady demographic shift towards an older population has begun to place a strain on the social security system, a problem that is increasingly evident in many other developed economies. This trend in shifting responsibilities, from the society to the individual, has been coupled with increased innovation in terms of financial services. Consumers face more and more options with each passing year, and this presents an array of challenges. Not only are Americans responsible for determining how much to save in a given year to provide a lifetime stream of income in retirement, but also they are being asked to choose the most effective allocation of saved assets from a wide array of market options. For younger Americans today, this means that poor financial decisions may be more costly than in years past. Many younger Americans are also starting out in life with significant amounts of personal debt due to an increased reliance on student loans to fund their education (College Board 2014; Haughwout et al. 2015). This is further complicated by the fact that a large body of evidence has been gathered detailing the generally low financial literacy among young adults (Lusardi, Mitchell, and Curto, 2010; Mandell, 2004; 2008).

Concerns over this lack of financial knowledge has engendered a growing public policy response, with the most common solution being financial education. Thirty-one states have implemented financial education in high school (Pelletier, 2013). The intention of such interventions is to improve outcomes for consumers by assisting in more effective decision-making. Logically providing more information should present individuals with the tools necessary to make good choices. However, empirical evidence suggests that such behavioral outcomes do not necessarily follow directly from knowledge improvement alone (Johnson & Sherraden, 2007). Rather, behavior is necessarily complex and is influenced by numerous other factors aside from knowledge alone (Houston, 2010; Johnson & Sherraden, 2007). One aspect that has received more attention in recent years is the process of financial socialization, whereby parental and environmental factors influence behavior. The present analysis explores the financial capability of young adults with an emphasis on financial socialization received in the home and financial education received from the school system. Conceptually, it can be considered that financial education programs provided in schools are serving as a substitute for skills that are not being taught in the home. However, it is theoretically possible that such programs are most effective when they are considered as complements to a process of intentional financial socialization.

Literature Review

There is a wealth of literature that attempts to explain human behavior from a multidisciplinary standpoint (See Social Cognitive Theory, Bandura, 2011; Theory of Planned Behavior, Ajzen, 1991; and Trans-theoretical Model of Change, DiClemente & Prochaska, 1982; among others), but Tang et al. (2015) highlight some consistent principles that seem to run throughout the various theories. Specifically, Tang et al. (2015) noted that what people think has an influence on how they behave, knowledge is an important but insufficient condition for behavioral change, and that social and psychological factors are significant influencers of behavior.

Childhood economic conditions influence many outcomes later in life, including human capital formation, economic mobility, and health. Parent and caregiver behaviors provide a model for decision-making in early adulthood (Danes, 1994; Danes, Huddleston-Cases, & Boyce, 1999). Parents and caregivers also serve as an important support system for many young adults as they become more independent. Previous studies have noted a positive association between parental financial knowledge and that of their children (Lusardi et al., 2010). One significant concern that stems from a reliance on parents as the primary providers of financial education is the fact that parents are often lacking in critical financial knowledge or skills themselves. Evidence from earlier studies indicates that many parents do not actively

discuss financial matters with their children (Lyons & Hunt, 2003) or that many parents did not believe that teaching about personal finances was their responsibility (ASEC, 2001). This certainly does not mean that parental influences are not a significant factor to consider from a financial education standpoint, as a great deal of parental teaching is implicit.

Prior studies have highlighted a number of critical connections between parental behaviors and their children's preferences and behaviors (Dohmen et al., 2006; Xiao et al., 2011). The literature on associations between parental influences on financial behavior is less robust, though this topic has received more attention in recent years. Jorgensen and Savla (2010) noted a significant association between perceived parental influences on attitude, and an indirect effect of perceived parental influences on financial behavior, mediated by attitude. Campenhout (2015) reviews the state of the literature on parental socialization, noting that whereas education initiatives and literacy programs often stress the importance of starting young, programs tend to do a poor job of connecting with the development process and parents are often not included as a core component of such curricula.

Methods

We use the Panel Study of Income Dynamics bi-annual Transition to Adulthood Supplement (TA) from 2005-2013 to gather measures of financial capability among young adults graduating in years and states where financial education mandates were implemented. TA data also includes a rich set of individual-level demographic variables as well as the opportunity to follow the sample back to their childhood using the Childhood Development Supplement. The CDS sample is drawn from the children of the original PSID sample who were 0-12 years old in 1997. CDS includes information about childhood environment that we use to measure the differential impact of financial education by parent characteristics and childhood financial circumstances.

The State Mandated Financial Education Database constructed by Urban, Schmeiser, Collins (2015) serves as the source for the state-level policy variables that are used in this study. The data include information on state financial education mandates in all 50 states from 1970-2014. The data include graduation requirements, optional participation, type of course, testing, and indicator of local or district control. We merge the individual-level data from the TA by state of residence and high school graduation year to the corresponding financial education mandates.

Our sample includes individuals who graduated between 2002-2012 in states with and without mandates. Figure 1 illustrates the rapid adoption of personal financial education requirements for high school graduation over this time period. Figure 2 provides a closer look at the implementation of financial education mandates during the time period that we investigate in this study. The period that we study is of particular interest because it saw the greatest growth in states offering and requiring personal finance courses.

In this paper, we exploit exogenous variation in state financial education policy to identify the causal effect of high school financial education on financial capability in young adulthood. The treatment group is composed of all students who graduate in a year and state where a mandate requiring personal financial education for graduation is implemented. The comparison group is composed of individuals who live in states that never have a financial education mandate and students who graduate in a year prior to the implementation of a mandate. We use the following specification to estimate the impact of state financial education mandates:

$$Y_{ijt} = \alpha + \beta_1 Mandate_{jt} + \beta_2 X_{it} + \beta_3 GradState_j + \beta_4 GradYear_t + \epsilon_{ijt}$$

Y_{ijt} is the score on the financial capability index for individual, i, of state, j, who graduated in year, t. We follow the definition set out by the President's Advisory Council on Financial Capability of Young Americans: "Financial capability means having the requisite knowledge, skills and access to manage financial resources prudently and effectively". With this definition in mind, we construct a financial capability index from five questions about financial ability and responsibilities. These questions are asked across waves in the Transition to Adulthood supplement. Table 1 summarizes the question topics, average inter-item covariance, and Cronbach's alpha for each item and overall index. The financial capability index is standardized by the control group mean and standard deviation. Standardizing in this way allows our estimate to be interpreted as the difference in standard deviation units between the treatment and

comparison group (Kling et. al. 2007).

$Mandate_{jt}$ indicates that an individual resides in state, j, in their graduation year, t, where personal finance is a graduation requirement. X_{it} is a vector of individual-level demographic characteristics that we include as controls. Controls include marital status, employment status, whether they have children, education level, race, gender, whether they are banked or not, childhood economic conditions, and parent's education level. We also include graduation state and graduation year fixed effects to control for unobserved state and time invariant characteristics that may influence financial capability.

Table 2 details summary statistics for our sample of young adults including demographic characteristics, financial capability measures, and personal finances. We restrict our sample to only individuals who are 20-25 years old. Because we observe some individuals more than due to the TA design, we keep only the most recent observation for each person. We do not observe all demographic characteristics for every member of our sample. To deal with this, we exclude individuals who do not report their mother's education level. Father's education level is unreported for more than 25% of our sample which leads us to only control for mother's not father's education in our model. Parent education level is highly correlated in our sample, $\rho = 0.779$, so we do not expect the bias from omitting father's education to impact our results.

Results

Our preliminary results reveal a positive and statistically significant impact of mandated financial education on financial capability in young adulthood. Table 4 column 1 shows the estimate for our baseline with graduation state and year fixed effects. We find an increase of 0.21 standard deviations for those who graduate with a financial education requirement. In column 2, we include a rich set of control variables for demographic characteristics, personal finances, childhood economic experiences, and parental education. Including these covariates reduces our estimate by 0.05 standard deviations, but the effect remains positive and statistically significant. In column 3, we include state and year fixed effects, as well as age and survey year dummy variables. We estimate that financial education significantly increases financial capability by 0.235 standard deviations in this specification. Finally, in column 4 we estimate the effect with our fully specified model that includes state and year fixed effects, a rich set of covariates, age dummies, and survey wave dummies. Financial capability is 0.176 standard deviations higher for individuals who are required to take a financial education course to graduate from high school.

Our previous analyses show the effect of financial education for all students, both graduates and non-graduates. In column 5 of Table 4 we restrict the sample to only high school graduates. The estimate is the effect of graduating from high school and fulfilling the financial education requirement on later life financial capability. Under this sample restriction, we estimate the treatment on the treated effect (TOT) of financial education requirements on financial capability for these young adults. We find that students who graduate with a binding mandate increase their financial capability by 0.237 standard deviations relative to the comparison group. The TOT effect is 30 % larger, 0.061 standard deviation units, than the ITT estimate. To further explore the impact of financial education, we also analyze how the impact differs depending on the rigor of the financial education program. We follow work by Urban et. al. (Forthcoming) who identifies eleven states with rigorous financial education requirements. In column 6 we present the results of our model when restricted to only those with rigorous financial education. We find a positive, but statistically insignificant impact for this subgroup of the sample.

Table 5 details the results from the fully specified model for each component of the financial capability index. All estimates of the effect of financial education are positive for these items. However, estimates for ability to manage money, responsibility for managing money, responsibility for earning a living, and responsibility for paying rent are statistically insignificant. The only statistically significant impact of financial education is on responsibility for paying bills. Individuals who participate in a financial education course in high school take on significantly more responsible for paying their bills than those who do not take the course.

Finally, we explore heterogenous effects of financial education on financial capability in young adulthood by childhood financial circumstances, gender, race, and parent's education level. Table 6 column 1 illustrates that children who underwent economic strain during their childhood have higher financial capability. Economic strain is defined as any incidence of a range of economic problems including sold possessions or cashed in life insurance, postponed major purchases, postponed medical care, borrowed money from friends or relatives, applied for government assistance, filed for or taken bankruptcy,

and fallen behind in paying bills. There is no significant differential impact of financial education on financial capability for individuals whose families dealt with these economic strains. Next, we analyze whether there is a heterogenous effect of financial education for those who saved as a child. Results are presented in column 2. We find that the interaction is small and statistically insignificant. In column 3, we analyze whether financial education has a differential effect by race. Although we find that being white reduces your financial capability, we do not find an interactive effect with financial education. In column 4, we find that women are not differentially impacted by financial education. Column 5 shows individuals who grow up with fathers who do not graduate from high school have 0.521 standard deviations lower financial capability in young adulthood. We find similar results for individuals who grow up with mothers who do not graduate from high school. Their financial capability is 0.378 standard deviations lower.

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Figure 1: State Financial Education Mandates: 1970-2014

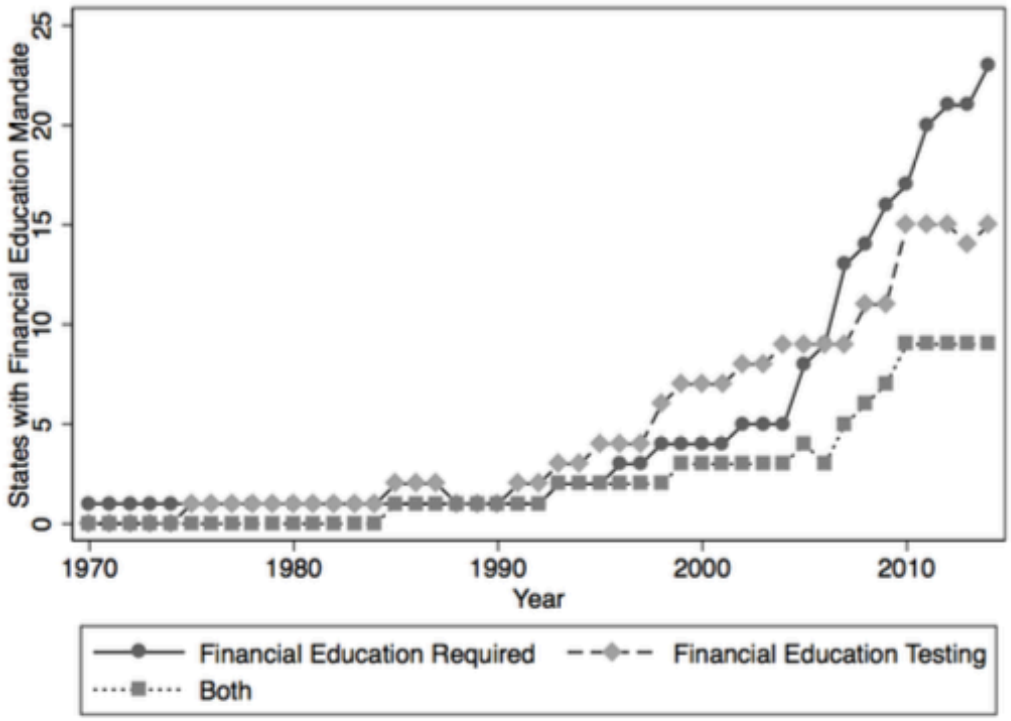

Table 2: Means of financial capability index

	All	No requirement	Required
	Mean/Prop.	Mean/Prop.	Mean/Prop.
fincap	-0.05	-0.01	-0.14
Ability to manage money (7 pt.)	5.48	5.47	5.52
Ability to pay off CC balance (7 pt.)	5.51	5.43	5.72
Responsibility for earning money (5 pt.)	4.12	4.16	4.03
Responsibility for paying rent/mortgage (5 pt.)	3.57	3.62	3.44
Resposibility for paying bills (5 pt.)	4.13	4.18	3.99
Responsibility for managing money (5 pt.)	4.65	4.68	4.58
Observations	1968	1392	576

Table 3: Summary statistics

	All	No requirement	Required
	Mean/Prop.	Mean/Prop.	Mean/Prop.
Age	22.97	23.24	22.31
Married	0.10	0.12	0.07
Cohabiting	0.17	0.17	0.18
Employed now	0.64	0.65	0.62
Parent	0.28	0.28	0.27
Some college	0.58	0.59	0.56
Full-time student	0.25	0.24	0.29
High School Graduate	0.64	0.67	0.59
White	0.52	0.54	0.47
Female	0.47	0.47	0.45
Banked	0.78	0.79	0.74
Value of savings/checking accounts	1545.20	1648.57	1295.37
Own a car	0.44	0.47	0.35
Saves for retirement	0.12	0.12	0.12
Receive help paying rent	0.16	0.16	0.17
Receive help paying bills	0.37	0.35	0.40
Have student loans	0.40	0.40	0.41
Any econ strain in childhood	0.72	0.70	0.75
Father's education < HS	0.11	0.11	0.11
Mother's education < HS	0.10	0.11	0.09
Observations	1968	1392	576

Table 4: Estimated Effect of State Mandated Financial Education on Financial Capability

	(1)	(2)	(3)	(4)	(5)
	Outcome:	Financial Capability Index			HS Grads
	β / SE	β / SE	β / SE	β / SE	β / SE
Require high school financial education	0.206**	0.154*	0.235**	0.176*	0.238*
	(0.098)	(0.088)	(0.105)	(0.093)	(0.134)
State and Year fixed effects	Yes	Yes	Yes	Yes	Yes
Controls	No	Yes	No	Yes	Yes
Age dummies	No	No	Yes	Yes	Yes
Survey wave dummies	No	No	Yes	Yes	Yes
Observations	1839	1838	1839	1838	1188
R^2	0.103	0.232	0.125	0.245	0.241

* p < 0.1, ** p <0.05, *** p <0.01.

Table 5: Estimated Effect of State Mandated Financial Education on Each Financial Capability Scale Item

	(1)	(2)	(3)	(4)	(5)
	Ability managing	Resp. managing	Resp earning	Resp rent	Resp bills
	β / SE	β / SE	β / SE	β / SE	β / SE
Require high school financial education	0.113	0.007	0.075	0.261	0.238**
	(0.115)	(0.066)	(0.083)	(0.156)	(0.097)
State and Year fixed effects	Yes	Yes	Yes	Yes	Yes
Controls	Yes	Yes	Yes	Yes	Yes
Age dummies	Yes	Yes	Yes	Yes	Yes
Survey wave dummies	Yes	Yes	Yes	Yes	Yes
Observations	1967	1967	1967	1845	1944
R^2	0.057	0.103	0.277	0.222	0.233

* p < 0.1, ** p <0.05, *** p <0.01.

Table 6: Heterogenous Effect of State Mandated Financial Education on Financial Capability

	(1)	(2)	(3)	(4)	(5)
	β / SE	β / SE	β / SE	β / SE	β / SE
Require high school financial education=1	0.257*	0.217*	0.181	0.265*	0.222**
	(0.134)	(0.119)	(0.111)	(0.141)	(0.104)
Any econ strain in childhood=1	0.121**				
	(0.051)				
Require high school financial education=1 × Any econ strain in childhood=1	-0.092				
	(0.118)				
White=1		-0.188**			
		(0.078)			
Require high school financial education=1 × White=1		-0.080			
		(0.101)			
Female=1			-0.052		
			(0.038)		
Require high school financial education=1 × Female=1			0.010		
			(0.087)		
Father's education < HS=1				0.394***	
				(0.095)	
Require high school financial education=1 × Father's education < HS=1				-0.521***	
				(0.104)	
Mother's education < HS=1					0.155*
					(0.082)
Require high school financial education=1 × Mother's education < HS=1					-0.378*
					(0.218)
State and Year fixed effects	Yes	Yes	Yes	Yes	Yes
Controls	Yes	Yes	Yes	Yes	Yes
Age dummies	Yes	Yes	Yes	Yes	Yes
Survey wave dummies	Yes	Yes	Yes	Yes	Yes
Observations	1838	1838	1838	1327	1838
R^2	0.262	0.262	0.262	0.306	0.264

* p < 0.1, ** p <0.05, *** p <0.01.