Long-Term Effects of Financial Education Initiatives in Shaping the Financial Capability of Indian Adolescents

Manya Goel

Student, the Shri Ram School, Delhi

Abstract
In an endeavor to bridge the gap in financial literacy among Indian adolescents, I spearheaded a comprehensive survey and subsequent workshop aimed at high school teenagers. Over the course of two impactful days, our team engaged with students, imparting invaluable insights into the realm of finance. The workshop was strategically designed to cater to the unique needs and interests of the participants, ensuring that the content was not only informative but also relatable. Our initiative sought to empower these young minds with practical knowledge about budgeting, savings, and the basics of financial planning. Through interactive sessions, real-life scenarios, and hands-on activities, we endeavored to demystify complex financial concepts, laying a foundation for their future financial well-being. By navigating the intricacies of personal finance, we aimed to equip these adolescents with the tools and understanding necessary to make informed decisions, fostering a sense of financial responsibility.
The impact of our financial literacy survey and workshop extended beyond the immediate educational setting, reaching families and communities. Through this initiative, we aspired to instill a culture of financial prudence, laying the groundwork for a generation of financially savvy individuals poised for success in their future endeavors.

Keywords: Parental saving socialization, Objective financial knowledge, financial well being

Introduction

Parental Saving Socialization

The saving behavior of parents can indeed have a significant impact on the financial stability of their young children. Here are some ways in which parental saving behavior can influence a child's financial well-being:

Figure 1. A Mother giving her daughter some money

1. Financial Education and Habits:
Parents serve as primary role models for their children. If parents demonstrate responsible saving habits, children are likely to observe and absorb these behaviors. This early exposure to financial responsibility can contribute to the development of positive financial habits and attitudes in the future.

2. Emergency Preparedness:
Saving for emergencies is a crucial aspect of financial stability. If parents have an emergency fund in place, it provides a sense of security for the family. This stability can positively impact children by creating a safe and predictable environment.

3. Education Funding:
Saving for a child's education is a common financial goal for parents. By actively saving for their children's education, parents can help alleviate the financial burden associated with higher education. This, in turn, can provide children with more opportunities for academic and career advancement.

4. Long-Term Investments:
Parents who engage in long-term saving and investment activities may accumulate wealth over time. This accumulated wealth can potentially benefit the next generation by providing financial support for major life events, such as buying a home or starting a business.

5. Financial Stress Impact:
On the flip side, if parents struggle with financial instability or are burdened by debt, it can create a stressful environment for the family. Financial stress within the household can impact children's well-being and contribute to a sense of insecurity.

6. Teaching Money Management:
Actively involving children in discussions about family finances and budgeting can contribute to their financial literacy. Parents who teach their children about budgeting, saving, and investing help prepare them for making informed financial decisions in the future.

It's important to note that the impact of parental saving behavior on young kids' financial stability is not solely about the amount saved but also about the values and financial principles instilled in children through parental actions and discussions. Open communication about money matters and setting positive examples can play a crucial role in shaping a child's financial mindset.

School financial Education

School-based financial education can have a substantial impact on kids, providing them with essential knowledge and skills to make informed financial decisions throughout their lives. Here are some key ways in which financial education in schools can influence children:

Figure 2. A typical school child learning about money saving

1. Financial Literacy:
Financial education helps children develop a strong foundation of financial literacy. They learn about basic financial concepts such as budgeting, saving, investing, and understanding interest rates. This knowledge empowers them to make informed decisions about managing their money.

2. Money Management Skills:
Practical money management skills are crucial for navigating the complexities of personal finance. School financial education programs often include activities that teach kids how to create a budget, track expenses, and make responsible spending choices.

3. Goal Setting and Planning:
Financial education encourages kids to set financial goals and develop plans to achieve them. Whether it's saving for a future purchase, funding their education, or planning for retirement, these skills are essential for long-term financial well-being.

4. Understanding Credit and Debt:
Kids learn about the responsible use of credit and the potential pitfalls of debt. Understanding the implications of borrowing money and the importance of maintaining good credit can contribute to better financial decision-making in adulthood.

5. Career and Income Awareness:
Financial education often includes discussions about careers, income, and the connection between education and earning potential. This awareness can help kids make informed choices about their educational paths and future careers.

6. Critical Thinking and Decision-Making:
Financial education encourages critical thinking and decision-making skills. Kids learn to analyze financial information, evaluate options, and make choices that align with their goals and values.

7. Risk Management:
Kids gain an understanding of financial risks and how to manage them. This includes learning about insurance, investment risk, and the importance of building an emergency fund.

8. Entrepreneurship Awareness:
Financial education may introduce kids to entrepreneurial concepts and the basics of starting and running a business. This can foster an entrepreneurial mindset and an appreciation for economic principles.

9. Family and Community Impact:
Financial education can extend its impact beyond the individual to families and communities. Kids may share their knowledge with family members, contributing to overall financial well-being.

10. Long-Term Financial Security:
Ultimately, the goal of financial education is to equip kids with the skills and knowledge needed to achieve long-term financial security. By instilling these habits early, educators aim to set children on a path toward financial independence and stability.

Research suggests that effective financial education programs can positively influence financial behaviors and attitudes, leading to improved financial outcomes in adulthood. Implementing comprehensive and age-appropriate financial education in schools can play a crucial role in preparing the next generation for financial success.

Financial Education vs parental norms

The effectiveness of parental saving versus school financial education is not an either/or scenario. Instead, a combination of both is likely to be the most effective. When parents model good financial behaviors and actively engage in financial discussions at home, it complements the formal instruction provided in schools.

Research suggests that a holistic approach, involving both parental involvement and school-based education, has the greatest impact on children's financial literacy. Ultimately, collaboration between parents and schools is key to providing a well-rounded financial education that prepares children for the complexities of managing money in adulthood.

Literature Review

Alex Yue (2020), studied the impact of school financial education on parental saving socialization in Hong Kong adolescents, teenagers express their independence and shape their self-identities through their consumption patterns. The practice of adopting prudent saving habits plays a pivotal role in amassing financial resources, aiding adolescents in making crucial consumption decisions and fostering financial confidence as they transition into adulthood. In an effort to explore this dynamic, a financial education program was implemented among a group of Hong Kong adolescents. A parental saving socialization model was examined both before and after the intervention. The study revealed that, prior to the intervention, the impact of parental saving activity, particularly parental saving norms, did not significantly vary between the experimental and control groups. Parental saving norms were identified as promoters of responsible saving behavior by fostering self-control. Notably, there was no substantial direct correlation between parental saving norms and healthy saving behavior initially. However, following the financial intervention, this connection became significant and positive, underscoring the role of school-based financial education in enhancing the effectiveness of parental saving socialization. This discovery contributes novel insights to the understanding of parental financial socialization frameworks.[1]

Alex Yue (2019) has studied the impact of Financial Education on Adolescent Financial Capability, the competence in financial matters holds significant importance for adolescents, and delivering financial education in secondary schools is a natural and opportune approach. Despite this, there is currently limited empirical evidence available on the impact of in-school financial education on the financial capability of adolescents. This pilot study utilized a randomized experimental design, a blend of local and non-local financial education courses, thorough measurements and multi-level structural equation modelling for data analysis. It aimed to assess the outcomes of a financial education initiative in a representative sample of Hong Kong adolescents. The results indicated that the financial intervention positively influenced objective financial knowledge and financial self-efficacy but had a negative impact on financial behaviors. Notably, the positive effects on financial self-efficacy were more pronounced in male adolescents compared to females. These findings make a noteworthy contribution to the existing literature on financial education at the secondary school level.[2]

Melaine Luhrmann et al. (2013) studied the impact of financial education on teenagers. Numerous global initiatives are dedicated to enhancing financial literacy through targeted educational programs; however, there is limited empirical evidence regarding their efficacy. This study investigates the impact of a brief financial education program implemented in German high schools on teenagers. The results indicate a

significant enhancement in teenagers' interest in financial matters and their financial knowledge, particularly in their ability to assess the risk associated with various assets. On a behavioural level, there is a notable reduction in self-reported impulse purchases. However, despite these positive effects, there is no substantial evidence of a significant increase in savings. Intriguingly, the data uncovers pronounced gender differences even before adulthood: Girls exhibit lesser interest in and self-assessed knowledge of financial matters and are less inclined to save compared to their male counterparts.[3]

Aisa Amagir (2018) has done a review of financial literacy education programs for children and adolescents. In this comprehensive review of existing literature, the authors have examined the efficacy of financial literacy education initiatives and interventions tailored for children and adolescents. Additionally, essential component for designing a successful curriculum for financial education have been discussed. The evidence indicates that financial education programs implemented in schools can enhance the financial knowledge and attitudes of children and adolescents. Studies evaluating the intention to adopt positive financial behaviour, as well as those relying on self-reported behaviour, consistently report favourable outcomes. However, research focusing on the actual impact of financial education on the financial behaviour of children and adolescents is limited and reveals minimal effects. A promising approach for imparting financial literacy to primary and secondary school students is through "experiential learning." As for college-level education, emphasis should be placed on addressing specific "life events" pertinent to students. These findings offer valuable insights for the development of effective school-based financial education programs.[4]

Methodology

Research hypothesis

Drawing from existing literature, our hypothesis posits that adhering to parental saving norms contributes to the cultivation of healthy saving behaviors. This influence is attributed to the encouragement of self-control and fostering positive attitudes toward saving. To enhance the comprehensiveness of our model, we incorporated objective financial knowledge, aligning with both consumer socialization theory and the conceptual framework proposed by Gudmunson and Danes (2011). According to this framework, objective financial knowledge emerges as a robust predictor of financial behavior shaped by any socialization agent. In our model, we further theorized that objective financial knowledge can positively impact saving behavior, acting as a mediator through self-control and positive attitudes toward saving. Additionally, our hypotheses extend to asserting that both parental saving norms and objective financial knowledge have a direct and favorable influence on the healthy saving behavior of adolescents. Of particular significance is our expectation that, following exposure to school financial education, the connections from parental saving norms to self-control, positive attitudes toward saving, and saving behavior will strengthen.

Method

Procedure

The Indian government employs a ranking system to assess the academic performance of secondary schools. To ensure a comprehensive representation in our study sample, we extended invitations to five secondary schools, each occupying a distinct rank. Grades 9 through 12 were selected for examination, given that the age range of students in this bracket typically falls between 12 and 18 years, mirroring the

U.S. equivalent of grades 7 through 9. This choice deliberately focuses on adolescents. From each school, one class was randomly chosen for participation. Among these, one school was designated as the control group, while the remaining four served as experimental groups for the financial intervention. Random allocation occurred at the school level to prevent potential spillover effects within schools. Prior to group randomization, explicit written consent was obtained from school administrators, parents, and student participants by our research team. Baseline data collection was conducted before initiating the financial interventions. Follow-up data collection took place five months post-intervention, aligning with the perceived suitability of this timeframe for evaluating the short-term impacts of the courses, as suggested by Amagir et al. (2018). Additionally, long-term effects were assessed one year post-intervention. To ensure data quality, the questionnaire was crafted using English wording and phrasing, and a dedicated research assistant with thorough training conducted the two rounds of fieldwork. The anticipated completion time for the questionnaire was set at 60 minutes.

The financial intervention initiative we implemented comprised ten weekly after-school workshops, each lasting 90 minutes. These sessions were overseen by seasoned instructors with a background in business education. To enhance the learning experience, a diverse array of methods, including lectures, case studies, group discussions, videos, games, role-playing, problem-solving techniques, and exercises, were incorporated into the workshops.

The courses utilized two teaching materials. The first resource was the Family textbooks created by MHRD, designed to facilitate engaging and straightforward learning experiences to assist individuals in India in planning and managing their finances. The content encompasses various life events, including commencing work and navigating unexpected changes, and covers aspects of financial management such as budgeting, savings, personal banking, debts, borrowing, as well as knowledge of financial products like stocks, warrants, funds, and awareness of scams. The second material employed was the Financial Fitness for Life program, tailored for grades 9 through 12 and developed by the U.S. Council for Economic Education. This program focuses on imparting knowledge related to income, savings, spending, investing, and credit.

Figure 3. Survey being conducted by our Team

Sample

A total of 300 participants successfully completed the baseline assessment, yielding an impressive response rate of approximately 90%. Among these, four schools, encompassing a total of 240 students,

were randomly assigned to the experimental group, while one school, with 60 students, was designated as the control group. Following the requisite approvals from both parents and schools, all students in the experimental groups actively participated in the ten workshop sessions. In total, 300 participants completed both the wave 1 and wave 2 assessments, with 240 belonging to the experimental group and 60 to the control group. The average age of participants was 14.30 years (SD = 0.67, range = 13–17 years), with a majority being female (57.9%). In terms of parental education, 46.6% had attained a high school or pre-college education, 20.6% had completed junior middle school, and 10.1% held an undergraduate degree. Additionally, 12.4% of families were identified as economically disadvantaged, receiving Social Security Assistance. Apart from age, there were no significant differences in the baseline assessment between the experimental group and the control group. It's noteworthy that the mean age of participants in the experimental group was significantly lower than that of the control group.

Figure 4. Students filling out the questionnaire

Measures

The study focused on evaluating socialization processes, encompassing objective financial knowledge and parental saving norms. Additionally, psychological attributes were assessed, including self-control in saving behavior and positive attitudes towards saving. The ultimate variable of interest was the observed healthy saving behavior in adolescents.

Objective financial knowledge

To gauge objective financial knowledge, the study utilized the Financial Fitness for Life: High School (FFFL-HS) Test, a standardized U.S. examination tailored for high school students, typically around the age of 15 (Walstad, Rebeck, & MacDonald, 2010). The FFFL-HS test comprises 50 multiple-choice questions distributed evenly across five thematic areas: economic thinking, earning income, savings, spending and using credit, and money management. Participants received a code of 1 for correct answers and 0 for incorrect ones. Final scores for each thematic area (economic thinking, earning income, savings, spending and using credit, and money management) were determined by summing the scores of their respective items.

Parental Saving norms

Students were requested to express their level of agreement on a scale ranging from 1 (strongly disagree) to 5 (strongly agree) concerning three items associated with parental expectations regarding their saving behaviors. These specific items were drawn from previous studies (Shim, Serido, Tang, & Card, 2015;

Xiao, Tang, & Shim, 2009) and included statements such as "Your parents believe that you should save money on a regular basis," "Your parents believe that you should set aside some money for emergencies," and "Your parents believe you should save each month for the future." Participants were then asked to indicate their degree of agreement with each of these statements.

Self Control in saving Behaviour

In alignment with previous studies by Shim et al. (2010) and Serido, Shim, and Tang (2013), a singular item was employed to assess perceived financial behavioral control. The original item was phrased as, "When it comes to managing money, how easy or difficult is it for you to stick to your plans?" For the purposes of our study, we adapted this item to specifically address self-control in saving behavior, rephrasing it as, "How easy or difficult is it for you to stick to regular saving?" Participants were then asked to rate their level of confidence on a scale ranging from 1 (not confident at all) to 5 (very confident).

Positive attitudes towards saving

Students were requested to express their perspectives on saving using a scale ranging from 1 (strongly disagree) to 4 (strongly agree). The questionnaire included four items, namely, "Saving is only a matter for adults, and it is none of our business (reversely coded)," "Saving is only a matter for parents, and it is none of our business (reversely coded)," "We don't need to save because what we need parents will buy for us (reversely coded)," and "If I live at home, I don't need to save money (reversely coded)." Notably, the reverse coding indicates that higher scores represent stronger disagreement with the negated statements. The internal consistencies for both pre- and post-test scores were found to be 0.95 and 0.96, respectively.

Healthy Saving Behavior

Students were asked to provide information on their saving behaviors through a series of questions, with responses recorded using a binary format (1 = yes, 0 = no). The inquiries covered whether they regularly save, whether the cumulative amount saved thus far exceeded Rupees 2000, whether the amount saved in the last week exceeded Rupees 500, and whether the planned savings from a hypothetical Rupees 1000 birthday gift would be over Rs 500.

Data Analysis

The analysis proceeded in three stages. First, Confirmatory Factor Analysis (CFA) was conducted using Mplus for both pre-test and post-test data. Given that items assessing healthy saving behavior are categorical variables, the Weighted Least Squares (WLSMV) estimator was employed. Factor scores derived from the CFA were saved for subsequent main analyses. Secondly, Amos 26 (IBM, New York) was utilized to evaluate the hypothesized model of parental saving socialization without financial education intervention, utilizing the full set of pre-test data. Model fit was assessed through Chi-square ($\chi 2$) statistics, the Comparative Fit Index (CFI), and the Root Mean Square Error of Approximation (RMSEA). A non-significant result for the Chi-square test is indicative of good model fit. Following recent criteria, model-data fitness is considered acceptable if CFI exceeds 0.95 (Schermelleh-Engel, Moosbrugger, & Müller, 2003), and RMSEA falls between 0.05 and 0.08 (Cangur & Ercan, 2015). To assess path invariance, we compared the change in Chi-square values before and after constraining path coefficients in the experimental and control groups. If path invariance significantly reduced model-data

fitness, we further scrutinized the change in Chi-square values for each path coefficient in both groups to identify the specific paths showing significant differences. Considering the limited sample size in the control group, we reduced the number of estimated parameters to enhance generalization. Specifically, we constrained paths that were insignificantly different between experimental and control groups to be equal and released those that were significantly different. This was done as part of the preparation for the final multi-group model results. Thirdly, the entire process was repeated using the post-test sample to assess the stability and consistency of the findings.

Results

In both the experimental and control groups, objective financial knowledge exhibited a positive and significant association with positive attitudes towards saving. Similarly, parental saving norms were positively and significantly linked to self-control in saving behavior in both groups. However, objective financial knowledge did not show a significant association with self-control in saving behavior, and parental saving norms were not significantly linked to positive attitudes towards saving.

Self-control demonstrated a positive and significant association with healthy saving behavior in both groups. Interestingly, parental saving norms were not directly and significantly linked to healthy saving behavior in either group. On the other hand, positive attitudes were positively and significantly associated with healthy saving behavior in both groups, with a notably stronger effect observed in the control group compared to the experimental group.

In the experimental group, objective financial knowledge did not exhibit a direct and significant association with healthy saving behavior. Contrastingly, in the control group, this association was found to be significant. These findings suggest nuanced differences in the relationships between financial knowledge, attitudes, parental norms, self-control, and healthy saving behavior between the experimental and control groups.

Discussion

This study drew on data from Indian adolescent students to investigate the impact of parental saving socialization, both with and without school financial education intervention. Prior to financial education, our findings in both the experimental and control groups revealed that parental saving norms played a significant role in promoting healthy saving behavior. This influence was attributed to the positive impact on self-control towards saving. Additionally, objective financial knowledge was found to positively influence saving behavior by fostering positive attitudes towards saving.

The expectations parents hold regarding saving were identified as a motivating factor for adolescents to adhere to saving plans. This finding is particularly noteworthy in the Indian context, where meeting parental expectations is socially desirable and holds significance in shaping adolescents' financial behaviors.

The belief is that money management skills and saving strategies derived from financial knowledge contribute to reducing perceived difficulties in saving and foster positive attitudes towards saving. This understanding may elucidate why, in our adolescent sample, objective financial knowledge was identified as a positive influence on attitudes towards saving. In essence, the acquisition of financial knowledge appears to equip individuals, particularly adolescents in this context, with the skills and strategies necessary for effective money management and saving, thereby shaping positive attitudes towards the act of saving itself.

Following financial education, it is noteworthy that the previously insignificant direct link from parental saving norms to healthy saving behavior in both the experimental and control groups during the baseline assessment remained insignificant in the control group. However, in the experimental group, this link became significant and positive. This observation suggests that the influence of parents in the socialization process became notably stronger after the financial education intervention. This development is promising for financial education practitioners, as it underscores the idea that school financial education is designed to complement, rather than substitute, parental financial socialization efforts. The findings highlight the potential synergy between parental influence and formal financial education programs.

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