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ORIGINAL PAPER

Money Talks: Testing a Series of Financial Literacy Modules to Encourage Financial Conversations in Middle School Families

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Abstract
The financial conversations parents/caregivers have with their children play a pivotal role in their financial development. Yet, little is known about strategies or interventions to promote these financial conversations. Focusing on parents/caregivers of middle school students in a Midwestern state, this exploratory study investigated the experiences of parents/caregivers who engage in financial conversations with their middle schoolers. We developed and tested "Money Talks", an online series of financial literacy modules to enhance parent–child financial conversations. Using qualitative interview data of 10 parents/caregivers as well as baseline, module, and follow-up survey data of up to 318 parents/caregivers, we examined the predictors of financial conversations and the impact of the modules on increasing both frequency and parents' confidence for engaging in financial conversations. Five key financial conversation topics emerged from parent/caregiver interviews including spending, banking, saving/investing, credit/debt, and financial decision-making. In surveys, confidence about financial topics emerged as the most important predictor of financial conversations. The follow-up survey results point to a greater amount of time spent on financial conversations rather than more frequent conversations and demonstrate that the modules were most effective in "Starting a conversation" with their middle schooler. Future research should experiment with different online and offline approaches for engaging parents/caregivers in financial conversations with their children and promoting other financial socialization methods such as financial modeling and experiential learning.

Keywords Financial conversations · Economic socialization · Online learning · Financial literacy · Parents · Caregivers · Middle-school aged children

Introduction

While 83% of parents of children under age 18 agree that parents are responsible for teaching personal finance, 55% of these parents report never or rarely talking about money with their children (Fox, 2022). Evidence suggests that parent–child financial conversations at home are associated with a greater likelihood of youth budgeting and tracking expenses, and a lower likelihood of using pay-day loans during college (Jorgensen et al., 2017). Evidence also suggests parent–child financial conversations at home can lead to a greater frequency of financial planning and meeting financial objectives (Cho et al., 2012) as well as higher credit scores and lower debt levels in adulthood (Grinstein-Weiss et al., 2011). From a theoretical perspective, parent–child financial conversation is a component of the family financial socialization model (Gudmunson & Danes, 2011). Family financial socialization is defined as the process by which individuals acquire the knowledge, skills, attitudes, and behaviors

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necessary to manage their personal finances within the family context (Gudmunson & Danes, 2011). The family financial socialization model draws from several streams of literature, including consumer socialization (Moschis, 1985; Moschis et al., 1984), social learning theory (Solheim et al., 2011), and family communication patterns (Mugenda et al., 1990), as well as the literatures on parental functioning (Belsky, 1984) and economic deprivation and child development (Duncan et al., 1994).

In the family financial socialization model (Gudmunson & Danes, 2011; LeBaron & Kelley, 2021), family interaction is a central component that is proposed to link personal and family characteristics to financial attitudes, knowledge, and capabilities. In addition, family interaction is proposed to serve as a predictor of purposive financial socialization, which describes the intentional efforts by parents to teach their children about financial matters in parent–child financial conversations (Gudmunson & Danes, 2011). Due to the central role of family interaction in the financial socialization framework, the understanding of effective strategies for encouraging interaction through the means of financial conversations between parents and their children is an important area of research (LeBaron & Kelley, 2021). It is in line with the growing body of knowledge that points to the key role parents play in shaping their children's financial socialization (LeBaron et al., 2018; LeBaron-Black et al., 2023). However, the development of effective financial conversation tools to assist parents and caregivers in purposive financial socialization has received limited attention (LeBaron & Kelley, 2021). The current study employs the family financial socialization model to identify personal and family predictors and purposive outcomes of financial interaction through parent/caregiver-child conversation. Our lens is the parent/caregiver perspective. The overall goal is to inform parents, caregivers, and their social and institutional support environment about effective, communication-based family interaction strategies.

Financial Conversations

Financial conversations between parents and their children are considered a primary form of financial socialization (Serido & Deenanath, 2016). In a qualitative examination (N = 115) of financial socialization methods described by both parents, grandparents, and their emerging adult children, parent–child financial discussions could be either spontaneous or intentional and were often used to crystallize critical financial principles and transmit essential skills, such as budgeting, either initiated by parents/grandparents or their children (LeBaron et al., 2018). Parent-initiated conversations primarily involved a top-down approach to sharing financial principles, while child-initiated conversations tended to take a more organic and interactive approach to transmitting financial lessons (LeBaron et al., 2018). The sharing of financial experiences (Romo, 2011), involving children in financial decision-making, and the importance of having conversations that are appropriate for the child's stage of development (LeBaron et al., 2020) are described as key components of successful conversations.

The conversation-based approach to family financial socialization has been contrasted to parent/caregiver modeling and experiential learning in the family financial socialization process (LeBaron-Black et al., 2023). In fact, parent–child financial conversations can be less effective when compared to parent financial modeling and experiential learning of finances, as shown in a larger-scale, retrospective study of young adults (LeBaron-Black et al., 2023). Still, the current study focuses on financial conversations rather than parent/caregiver modeling or experiential learning because the study was situated in the COVID-19 pandemic context. In line with literature on parent–child communication (Zhen et al., 2022), we considered financial conversations critical for stress management in families during the pandemic, knowing of the widespread effects of the COVID-19 pandemic on employment, food, and housing (CBPP, 2022). By now, a number of studies have documented that parent–child communication was an effective means for coping socialization during the pandemic in families with children, thus supporting the current study's focus on financial conversations (Peplak et al., 2023; Sherr et al., 2022; Tambling et al., 2021).

The current study builds on these insights and the financial socialization framework by collecting qualitative and quantitative data on the personal and family characteristics that are associated with an interest in financial conversations and to predict the frequency and time spent on financial conversations. Our particular focus is on financial conversations with middle school children because financial outcomes linked to family financial socialization tend to occur during a person's formative, teenage years (LeBaron & Kelley, 2021). This study focuses on middle school children because this is a unique period when youth learn early values and norms that influence their lifelong financial knowledge and decision-making (CFPB, 2016).

Financial Conversation Challenges

Despite the benefits of financial conversations, parents/caregivers can face challenges that limit the frequency or quality of financial conversations with their children, for several reasons. First, research on parental disclosure behavior suggests that parents/caregivers may have fewer financial conversations if they are concerned about burdening their child when families are experiencing financial difficulties

(Romo, 2011). Parental financial distress can compromise parent–child communication and has been associated with less open parent–child communication (Ponnet et al., 2015). Conversely, if young people anticipate unpleasant financial conversations with their parents, they are less likely to initiate financial conversations or seek financial advice from their parents (Edwards et al., 2007). Second, parent's level of confidence handling their own financial matters can influence their likelihood of engaging in financial conversations with their child. In their qualitative study with 52 parents and adolescents, Luhr (2018) found that parents who were less confident about their own ability to handle financial matters were less likely to engage in financial discussions with their children and more likely to shelter their children from financial matters. Additionally, they found that working class parents without a college degree were more likely than college educated, middle-class parents to report feeling unprepared to teach their children financial skills or engage in financial conversations (Luhr, 2018). Third, racial/ethnic disparities have been noted in the literature, pointing out that White young adults benefit more from financial socialization due to systematic factors (LeBaron & Kelley, 2021) and are more likely to engage in financial conversations with their parents while growing up as compared to other racial groups (Gutter et al., 2010). One study using data from the National Longitudinal Survey of Youth, found that when compared to Non-Blacks/Non-Hispanics, Black and Hispanic 25–35 year old adults were less likely to engage in financial conversations with anyone over the course of a 12-month period, including with their friends, family, or partners (White et al., 2021a, 2021b). Among the undergraduate students who participated in the 2014 National Student Financial Wellness Survey who reported having financial discussions with their parents, students who identified as Hispanic reported having the least financial conversations about investing when compared to other racial/ethnic groups (White et al., 2021b). African American participants reported the least saving and banking conversations compared to all other groups (White et al., 2021a). Fourth, parents/caregivers may be concerned about ensuring financial conversations are developmentally appropriate. In their qualitative interviews with both parents, grandparents, and their children (undergraduate students aged 18–30), LeBaron et al. (2020) found that financial discussions may be more effective when parents ensure the conversations are developmentally appropriate. They also found that children were more likely to initiate financial discussions that corresponded with their stage of development and suggested that parents capitalize on child-initiated conversations to instill financial knowledge and values (LeBaron et al., 2020). Therefore, we conclude that parents/caregivers who do not have developmentally appropriate conversations with their children may be less effective at transmitting important financial attitudes and lessons. Taken together, a small number of studies identified barriers that can inhibit parent–child financial conversations. These challenges present personal and family characteristics of the family financial socialization model. The current study builds on this research on conversation challenges (economic distress, financial literacy, racial/ethnic disparities, child development) to conduct a qualitative study of parents and caregivers about these challenges, with a focus on middle school children.

Interventions to Promote Family Financial Conversations

Only a small number of studies examine interventions that promote family financial conversations, within the framework of financial socialization. The lack of understanding of effective interventions to support family financial socialization, including the potential role of online financial education programs, has been noted in a recent review of the literature (LeBaron & Kelley, 2021). Online interventions aiming to improve parent–child discussions in other areas, namely, sexual health (Santa Maria et al., 2015) and alcohol misuse (Bo et al., 2018) behaviors provide a basis for effective interventions and strategies. In their evaluation of 28 interventions, Santa Maria et al. (2015) found that parents who participated in the interventions were more likely than the control groups to report positive effects in both frequency and comfort communicating about sexual health. Additionally, there were no significant differences between the effects of self-paced, online interventions or interventions that were in-person, group settings (Santa Maria et al., 2015). Another meta-analysis of 20 studies found that parent-based interventions were effective in preventing or reducing alcohol use in 11–15 year old adolescents (Bo et al., 2018). They found that interventions that implemented both alcohol-specific and general parenting strategies had larger effect sizes than interventions focused solely on alcohol-specific parenting strategies (Bo et al., 2018). Additionally, there was no statistically significant difference between online, self-directed interventions and professionally delivered interventions (Bo et al., 2018). Both studies did not find significant differences between online, self-directed interventions compared to programs delivered in-person, suggesting that online interventions to improve parent–child communication can be as effective as an in-person approach.

Online parenting programs provide greater accessibility and flexibility for families hindered by transportation, childcare, work schedules, or other barriers (Spencer et al., 2020). Effective online parenting programs like the online "Triple P" program, provide parents with strategies for communicating with children, are interactive, and share the experiences of other parents (Day et al., 2021). A smart phone-based app intervention to encourage parent–child conversations showed success in initiating more complex conversations over time, with regard to language and literacy skills (Rowe et al., 2021). Another study examining the online "Parents Wisely" program that aims to improve family communication and disciplinary strategies for adolescents, found that including structured activities for parents to practice the skills they learn with their children, and delivering the content over a period of weeks, as compared to a two-day series, increased program effectiveness (Cotter et al., 2013). They also examined program delivery formats between a parent-only group and another group that included both parents and their adolescent children and found greater effect sizes for parenting sense of competence and self-efficacy for the parent-only group. Cotter et al. (2013) speculate that parents in the parent-only format may feel more open and less concerned about how their children will perceive them when learning about certain topics. When considering online financial communication programs, ensuring parents feel comfortable and open may be even more important given previous research demonstrating that parents may feel uncomfortable discussing financial topics because they are afraid of burdening their children or feel ashamed about their financial situation (Osorio, 2019; Romo, 2011). The current, exploratory study translates the findings on online parent-focused interventions to enhance parent–child communication to test the potential of an online financial communication program to aid parents/caregivers of middle school children in having financial conversations.Following earlier research, we examine frequency and total time spent on financial conversations, actions selected by parents/caregivers to implement the financial conversations, and parent/caregiver satisfaction with the series of financial literacy modules.

The Current Study

The current study has the following, exploratory research questions:

Research question #1: Which challenges do parents/caregivers of middle-school children experience in financial conversations? We use data from in-depth interviews conducted with parents/caregivers of middle school children to address this question.

Research question #2: Which factors predict the frequency of parents/caregivers financial conversations with their middle school children? We use parent/caregiver data collected at a baseline evaluation survey to address this question.

Research question #3: Is the frequency or total time spent on financial conversations higher after completing the financial literacy modules? We compare the parent/caregiver data collected at a baseline evaluation survey to data collected at an evaluation survey that followed up to a series of financial literacy modules.

Research question #4: Which actions do parents/caregivers select to implement the financial conversations? To address this question we use parent/caregiver data from five online financial literacy modules.

Research question #5: How satisfied were parents/caregivers with the series of financial literacy modules? Parent/caregiver data from five online financial literacy modules informs our examination of this question.

Methods

Data

The research questions were addressed with qualitative and quantitative data. To address Research question #1, qualitive data were collected through in-depth interviews with parents/caregivers of middle school children; the questionnaire is presented in Appendix Table 1. Interviews with 10 parents/caregivers were conducted from November 2020 to January 2021. The interviews lasted from 45 to 60 min. Parents/caregivers were recruited via emails sent to all middle school parents/caregivers by the family engagement office of a large urban school district in the Midwest in November of 2020. 332 individuals responded to the call for participation, 12 individuals were contacted by the research team using a random selection approach, and 10 interviews resulted which were all conducted in English. A $25 electronic gift card to Walmart was provided as payment for participation after the interviews were completed. The qualitative study informed the development of the online "Money Talks" financial communication modules including the topics that could be covered and strategies such as conversation starters, activities, and commitment devices that could address challenges shared by participants.

To address Research questions #2–#5, five online "Money Talks" financial conversation modules plus baseline and follow-up evaluation surveys were developed for the target audience of parents/caregivers of middle school children based on the interviews. Only parents/caregivers participated in the modules and surveys associated with this study. To best tailor the modules and surveys to parents/caregivers, wording parents/caregivers used in the in-depth interviews was used in the content of the modules, following recommended approaches (Bruine de Bruin & Bostrom, 2013). The resulting "Money Talks" modules and evaluation surveys were written in English and Spanish languages and pre-tested by a small number of parents/caregivers and experts in middle school

Table 1 Interviewee characteristics

ID	Role	Gender of middle school child	Risk of problems with financial conversation	Suggested top-three topics for financial conversation modules
1	Mother	Girl	Low	Saving; avoiding debt; emergencies; budgeting
2	Mother	Not known	Low	Checking; savings; bills
3	Mother	Boy	Low	Delayed gratification; financial planning; saving
4	Mother	Girl	Between low and high	Saving; investing; [no third]
5	Mother	Girl	Between low and high	Money management; budget/prioritize spending; save/use savings account
6	Mother	Girl	Low	How to talk about savings; ways to earn money; income versus expenses;
7	Mother	Girl	Between low and high	Saving; balance spending and saving; interest
8	Mother	Not known	Low	[not answered]
9	Father	Boy	Low	How to save; prioritize spending; earning money
10	Grandmother	Girl	Low	Saving; financial responsibility-priorities; financial independence

education in Spring 2021. All participants were family or organization representatives recruited from the over 50 members of the State Advisory Council of the Ohio Statewide Family Engagement Center.

The five “Money Talks” modules and evaluation surveys were programmed in Qualtrics in English and Spanish. Two Qualtrics links for the two languages were created to recruit study participants. This link gave access to a series of four study components: screener questions, research consent form, baseline survey, and the first module of the five financial conversation modules; these documents are presented in Appendix Tables 2, 3, 4, 5. After accessing the first module participants received an email each week with the link to the next module in the series as well as the modules that were sent out previously. Participants were directed to the follow-up survey after completing the fifth and final module. Therefore, there was a gap of at least 5 weeks between when participants completed the baseline survey and the follow-up survey. Software-based reading time estimates were: 6 min (baseline survey), 3 min (Module 1, Module 2), 4 min (Module 3, Module 4, Module 5), 3 min (follow-up survey). The English and Spanish study links were shared in short recruitment emails, newsletters of family engagement offices, and weekly announcements of middle school principals with middle-school parents/caregivers in five suburban and urban, mid-sized and large school districts in Ohio. Recruitment was rolled out in waves, during fall of 2021 and spring of 2022. Combined, these school districts serve parents/caregivers of about 31,000 middle school children. A total of 609 potential study participants completed the screener questions and 396 study participants registered for the study by completing the research consent form. This research was approved by the Institutional Review Board of the Ohio State University.

Empirical Approaches

For Research Question 1, qualitative interviews with parents/caregivers of middle school children were conducted with an approach described in “mental model” research (Bruine de Bruin & Bostrom, 2013; Morgan et al., 2002). The mental models approach has been developed to design communications that address both the challenges of communication about a difficult topic and the communicators’ current beliefs about the topic (Morgan et al., 2002). A semi-structured questionnaire was used to collect the information; see Appendix Table 1. The in-depth, mental models interview with parents/caregivers of middle-school children were used to answer the following research questions: What do parents/caregivers of middle-school children believe about financial conversations and how to conduct them? How do these beliefs drive their financial conversations with their children? What barriers exist that prevent them from talking with their children about money? What are the coping mechanisms used by parents/caregivers to overcome difficulty talking about money? The goal for these interviews was to create a list of specific beliefs and behaviors that may be driving decisions about financial conversations, and the barriers that parents/caregivers may face. Interviews were conducted with additional parents/caregivers until no new decision-relevant beliefs emerged, which typically occurs after 8 to 10 individual interviews (Bruine de Bruin & Bostrom, 2013). We conducted 10 interviews. The interviews lasted from 45 to 60 min. Results from the interviews were used to develop a series of five online “Money Talks” financial communication modules for parents/caregivers of middle-school children.

Research Question #2 was investigated with responses to the baseline evaluation survey, see Appendix Table 4. We described the sample at baseline; the sample size ranged from n = 284 to n = 318. To examine the frequency of financial conversations at the baseline evaluation survey, the total sample was 371 responses. Respondents were asked to enter the last four-digits of their phone number as a participant identifier to connect responses across the baseline survey and five module surveys. The sample was reduced in two ways. We checked response quality carefully and removed invalid responses (n = 52) that contained a duplicate IP address (n = 24) or participant identifier (n = 36). In the majority of cases the invalid responses were entered within ten minutes of each other or had open-ended responses that were identical. Eight responses had both a duplicate IP address or participant identifier resulting in a total of 52 invalid responses. The final sample consisted of 319 valid responses. We examined the predictors of financial conversations at baseline using binary logistic regression with sample sizes ranging from n = 251 to n = 265.

To examine Research Question #3 change in financial conversations, we linked responses to the baseline and follow-up surveys (see Appendix Tables 4 and 5). Respondents provided the last four digits of their phone number on both surveys. A total of 1031 responses were collected (baseline: 371, follow-up: 660), and after checking data quality carefully and removing fraudulent responses, 31 responses were considered valid responses to both baseline and follow-up surveys, achieving a 9.2% sample retention. If we held constant the sample size across the analyses for these two research questions, the analytical sample would include only 23 respondents. To allow for the larger sample size of 31, we did not enforce a consistent sample size for data analysis. As a result, the sample size ranges from 29 to 31 respondents. To compare responses of the baseline survey with the follow-up survey, paired sample t-tests and paired samples correlation analysis were used. We report power analysis due to the small sample size, using the post-hoc analysis in G*Power (Faul et al., 2009). The quantitative data analysis was complemented with the analysis of survey comments provided by the 31 respondents.

To examine Research Question #4 and #5, parent/caregiver actions and parent/caregiver satisfaction with intervention, we examined the responses within the five "Money Talks" online modules, see Appendix Table 6. The largest number of responses was obtained for Module 1 "Spending" because it was completed during the first contact with study participants, as part of the "Screener—Research consent—Baseline survey—Module 1" sequence. Sample sizes included 233 valid responses for Module 1 Spending money (295 responses received in total), 34 valid responses for Module 2 Banking (37 responses received in total), 33 valid responses for Module 3 Saving and investing (40 responses received in total), 30 valid responses for Module 4 Credit and debt (44 responses received in total), and 34 valid responses for Module 5 Financial decision-making more generally (51 responses received in total). With regard to Research Question #4, each of the five "Money Talks" modules provided study participants with three to four conversation starters to use with their middle school child, gave access to three to four financial conversation activities to do with the middle school child, and requested an action plan to put into practice the conversation starters and financial conversation activities. The list of conversation starters and activities asked study participants to "select all" that they plan to use. The activities were described in downloadable PDF files and were also accessible in a companion website.[1] The action plan information was collected by asking study participants to type day, time, and topic into survey text boxes. With regard to Research Question #5, three questions evaluated each module regarding financial conversations with the middle school child, with the parent/caregiver's own confidence in financial matters, and allowed for comments. In addition, two evaluation questions were asked in the follow-up survey.

We used established indices to examine significance and model fit in the statistical analyses: paired sample t tests in means comparison tests as well as F value, change in F value, and adjusted R^2 in the OLS regression models. Thresholds are significant at $p < 0.05$ for t tests and $p < 0.001$ for F values.

Measures

For Research Question 1, a semi-structured questionnaire, shown in Appendix Table 1, collected data on the following themes related to risks of financial conversations with middle school children: (1) Exposure, including source of the risk, concentration of the risk, and uncertainty about exposure; (2) Effects, including nature of effect and uncertainty about effect; (3) Risk assessment and management, including reducing risk and role of family support/pressure; and (5) personal risk.

For Research Questions 2 to 4, the questionnaires are shown in Appendix Table 4 and 5. The outcome measures are frequency of financial conversations on the five topics covered in the "Money Talks" modules. The questions asked, "In the past 30 days, how often have you spoken with your middle-school child about [topic]?" The question was asked five times for the topics spending money, banking, saving and investing, credit and debt, and financial decision-making more generally. Response options were never (coded as 1), once in the past year (coded as 2), monthly (coded as 3), weekly (coded as 4), and don't know/prefer not to say (coded as missing). For data analysis, response

[1] "Money Talks" companion website: [URL removed for study review].

options “never” and “once in the past year” were coded as 0, “monthly” and “weekly” were coded as 1.

Time investment in financial conversations is measured with the question, “In the past 30 days, how much time do these money talks typically take?” Response options included less than 5 min (coded as 1), 5–15 min (coded as 2), 15–30 min (coded as 3), longer than 30 min (coded as 4). Don’t know/Prefer not to say responses were set to missing. In alternative approaches to coding this measure, we used scale midpoint coding (2.5, 10, 22.5, 30), lower bracket coding (1, 5, 15, 30) and upper bracket coding (5, 15, 30, 30).

Focal predictor variables included confidence about financial conversations and time invested in financial conversations with the middle school child. Confidence about financial conversations was inquired with the question, “How confident are you about talking with your middle schooler about [topic]?” It was repeated for each of the five “Money Talks” module topics. Response options included not at all confident (coded as 1), not very confident (coded as 2), somewhat confident (coded as 3), very confident (coded as 4), and Don’t know/Prefer not to say (coded as missing).

We controlled for respondent financial knowledge, respondent financial situation, and respondent socio-demographic characteristics. Financial knowledge was measured with the “big-three,” widely-used financial knowledge questions examining interest compounding, inflation, and risk diversification (Lusardi & Mitchell, 2014). Correct answers were compiled into a financial knowledge score which ranges from 0 to 3 correct answers. Questions about the financial situation were taken from the 2018 National Financial Capability Study (Mottola & Kieffer, 2017). The five questions included three questions about financial behaviors (“I am good at dealing with day-to-day financial matters;” “I would feel comfortable going to a bank or credit union branch to ask a question about a product or service;” and “I worry about running out of money”) and two questions about financial attitudes (“How difficult is it for you to cover your expenses and pay all your bills?” and “If you were to set a financial goal for yourself today, how confident are you in your ability to achieve it?”).

Socio-demographic characteristics were collected using questions from the National Financial Capability Study and included gender (male = 1, female = 0; other, prefer not to say coded as missing), age (continuous 18–101 or older; prefer not to say coded as missing), race or ethnicity (White or Caucasian, Black or African-American, Hispanic or Latino/a, Asian, Native Hawaiian or other Pacific Islander, American Indian or Alaska Native, Other, Prefer not to say coded as missing), educational attainment (Did not complete high school, High school graduate—regular High school diploma, High school graduate—GED or alternative credential, Some college/no degree, Associate’s degree, Bachelor’s degree, Post graduate degree, Prefer not to say coded as missing), marital status (Married, Single, Separated, Divorced, Widowed/widower, Prefer not to say coded as missing), employment status (Self-employed, Work full-time for an employer, Work part-time for an employer, Homemaker, Full-time student, Permanently sick, disabled, or unable to work, Unemployed or temporarily laid off, Retired, Prefer not to say coded as missing), number of financially dependent children (1, 2, 3, 4, 5, 6 or more, No financially dependent children, Prefer not to say coded as missing), grade level of other child/ren, besides your middle school child/ren (Younger than elementary school age, Under 5 years old; Elementary school age, 5–11; High school, 14–18 and over 18; Past High school age), living arrangements (I am the only adult in the household; I live with my spouse/partner/significant other; I live in my parents’ home; I live with other family, friends, or roommates; Prefer not to say coded as missing), COVID-related income changes (“Since the start of COVID-19, which one of the following best describes you and your spouse/partner’s income?”); approximate annual household income in 2020 (Less than $15,000; At least $15,000 but less than $25,000; At least $25,000 but less than $35,000; At least $35,000 but less than $50,000; At least $50,000 but less than $75,000; At least $75,000 but less than $100,000; At least $100,000 but less than $150,000; $150,000 or more; Don’t know/Prefer not to say coded as missing); questions about the household having a savings account; retirement plans; investments outside retirement savings, home ownership, auto loan and student loans (yes = 1, no = 0, Don’t know/Prefer not to say coded as missing), and the number of credit cards the respondent personally has (0–30).

For Research Question #4, three sets of measures were collected within the “Money Talks” online modules: (1) a list of four to five conversation starters to use with the middle school child, (2) a list of three to four financial conversation activities to have with the middle school child, and (3) data fields to enter action plan information, specifying day, time, and topic. All conversation starters were developed based on the parent/caregiver interviews, see Research Question 1. Examples include “How is spending money affecting your happiness? What about saving money?”, “How would you use a debit card if you had one?”, “How much money do you have in your savings? How did you save that money?” The financial conversation activities were selected from a widely-used personal finance middle school curriculum (NGPF, 2022) and popular resources provided by the Consumer Financial Protection Bureau and the Federal Deposit Insurance Corporation. The selection focused on short, conversation-heavy, easy-to-implement, and well-known activities. Examples included “Savings vs. Checking accounts”; “Why saving is important”; and “Credit: What is it, what to know, what to do." The full list of conversation starters and activities is provided within the five "Money Talks" modules in Appendix Table 6.

The action plan items were modeled on established guidelines of the implementation intention literature (Gollwitzer, 1999; Gollwitzer & Sheeran, 2006). The action plan included the following three items. "Please complete the following action plan and commit to have a Money Talk with your middle schooler. Decide on a day (e.g., today, tomorrow, on Saturday): [text box]"; "Decide on a time (e.g., before dinner, after dinner, watching TV, in the car): [text box]"; and "Decide on a topic: [text box]". Responses were included in the analysis if at least one of the three data fields were completed and included relevant information. For example, responses consisting of the word "yes" were not counted.

With regard to Research Question #5, four items were used to evaluate the outcome of the "Money Talks" intervention. First, every module asked about financial conversation with the item, "As a result of this Money Talks module, I am better prepared to: (Check all that apply) Know which [module name] topics I should talk about with my middle schooler; Start a conversation with my middle schooler about [module name]; Do a [module name] related activity; Prefer not to say." The responses were coded as binary yes/no answers.

Second, a question about the study participant's confidence was asked, "As a result of this Money Talks module, how much more prepared are you to work with other adults (banking professionals or your child's teacher) to support your child's understanding of [module name]?" Response options were no more prepared (coded as 1), slightly more prepared (coded as 2), somewhat more prepared (coded as 3), much more prepared (coded as 4) and significantly more prepared (coded as 5); Prefer not to say responses were set to missing.

Third, we asked study participants to leave comments with the invitation, "Your comments on this module are greatly appreciated. Please use the text box to give feedback. You can also reach us per email at [email address]." Fourth, in addition to the data collected in the "Money Talks" modules, the follow-up survey had two evaluation questions, "What is your overall satisfaction with the five Money Talks modules?" Responses were coded as very unsatisfied (coded as 1), somewhat unsatisfied (coded as 2), neutral (coded as 3), somewhat satisfied (coded as 4), very satisfied (coded as 5); Don't know/Prefer not to say were set to missing. The second question in the follow-up survey asked, "Will you recommend the five Money Talks modules to another parent or caregiver?" Response options were yes (coded as 3), maybe (coded as 2), no (coded as 1); Don't know/Prefer not to say were set to missing.

Results

Challenges to Financial Conversations

Parents/caregivers who completed the interview provided insights about their experiences and the challenges when engaging in financial conversations. Interviewee characteristics can be found in Table 1.

Challenges included concerns of placing unnecessary stress on children, finding the right time to talk, and difficulty making financial conversations developmentally appropriate and relevant to children who do not yet have any financial responsibilities.

> "Spending \$10 versus earning \$10; it is not straightforward. They can understand the math of how to calculate expenses etc. but they may not know where that money comes from and the effort of making the money-work ethic. Middle schoolers need more help with connecting the work of earning of money." (Parent/caregiver #2)
> "A middle schooler whenever they have to talk about something they are not interested in, they are very resistant. Kids are very aware but they are not so interested; it is hard to engage them in a way that they care." (Parent/caregiver #2)

Parents/caregivers expressed concerns about oversharing or inadvertently stressing out their children by discussing finances, particularly when the family is in a precarious financial situation. For some it gets more difficult as children get older.

> "A younger child might not understand what is going on to ask particular questions
> Older know when things are off, they know how to read open pieces of mail or understand when there are financial challenges in the family." (Parent/caregiver #1)
> "It's easier with older children due to the age-middle school children do not have a lot of money or responsibility with it-they are not directly involved with money management." (Parent/caregiver #5)

Furthermore, financial conversations could prompt parents/caregivers to reflect on their own financial situation. In some instances, they might experience negative feelings.

> "Parents may feel ashamed or sad for not making enough money." (Parent/caregiver #5)

The demands that parents/caregivers have could make it difficult for them to find the time to engage in financial conversations.

> "Parents come home from working tired, they may not have a conversation with their children, the energy it takes to have financial conversations or parents being overwhelmed already." (Parent/caregiver #3)

Taken together, the qualitative interviews indicated similar challenges for financial conversations with middle school children as have been identified in the literature for parent/child financial conversations in general. These challenges included parent/caregiver concerns over appropriate conversation starters and conversation timing, developmentally appropriate conversation levels, and inadvertently sharing financial distress if experienced by the parent/caregiver. This information was used to develop a series of "Money Talks" online modules to provide parents/caregivers with tools to address conversation challenges. Each of the five "Money Talks" modules included three to four developmentally appropriate conversation starters, gave access to three to four age appropriate financial conversation activities, and asked parents/caregivers to complete an action plan to identify time to practice the conversation starters and financial conversation activities.

Predictors of Frequency of Financial Conversations

The sample consisted of 80% women; average age is 41 (range: 22–75; mode: 40), average annual household income between \$35,000 and \$50,000. About 56% identified as White; 79% report higher education attainment, and 63% are homeowners. At baseline, 86.3% reported regular (monthly or weekly) conversations about spending, 56.4% about banking, 62.5% about saving, 46.1% about credit and debt, and 63.7% about financial decision-making. About 10.3% had conversations that lasted at least 30 min.

The average financial knowledge score was 0.43 (range 0 = 0 correct answer to 1 = 3 correct answers), the average money management score was 3.8 (range 1–5). When asked about how difficult it was to cover expenses and pay bills each month 56% reported having this difficulty. Confidence achieving financial goals was at an average 3.1 (range 1–4), and the confidence about financial conversations averages 3.2 (range 1–4). Respondent characteristics are detailed in Table 2.

Results of binary logistic regression of the frequency of conversations on the focal predictors and control measures are shown in Table 3. These exploratory, small sample-size results indicate that a greater frequency of having conversations on all five topics and time investment in the conversations is associated with greater confidence having financial conversations at $p < 0.01$. Exploratory correlation analysis indicates that confidence for having financial conversations is low to moderately and positively correlated with the frequency of conversations about spending with $r = 0.191$, $p < 0.001$, banking with $r = 0.30$, $p < 0.001$, saving with $r = 0.347$, $p < 0.001$, credit and debt with $r = 0.300$, $p < 0.001$, financial decision-making with $r = 0.224$, $p < 0.001$, and time investment with $r = 0.155$, $p = 0.007$.

In addition, a higher frequency of spending conversations were associated with higher educational attainment; higher frequency of banking conversations with male gender and homeownership; higher frequency of saving conversations with lower money management score and male gender; higher frequency of credit and debt conversations with greater financial difficulty and male gender; and a higher frequency of financial decision-making conversations with White race, but only marginally. In addition, shorter durations of conversations were associated with male gender and older age.

Changes in Financial Conversations Following the Financial Literacy Modules

Research question 4 examined the changes in financial conversation of parents/caregivers with their middle school children as a result of the "Money Talks" intervention. We compared survey responses from the follow-up survey with responses of the baseline survey. The paired sample t-tests indicate changes from baseline to follow-up survey at $p < 0.05$ for one of the focal measures, the lengths of time spent on financial conversations with $t = 2.15$, $p = 0.04$, power is 0.74. Four of the five topics showed higher levels of conversation frequency, but not at $p < 0.05$, except spending conversations. The largest difference was found for the frequency of speaking with the middle school child about banking with $t = 1.75$, $p = 0.09$. Similarly, confidence in engaging in financial conversations is higher at the follow-up survey for four of the five measures, but not reaching $p < 0.05$, again not for the spending conversation. We found the largest difference for confidence to speak about saving and investing with $t = 1.27$, $p = 0.21$. Results of paired sample t test are available on Table 4.

Written comments of parents/caregivers in this sample of 31 study participants provided personal opinions, in addition to the survey data. Three topics emerged in the feedback comments. Foremost, study participants emphasized that the "Money Talks" modules were helpful for getting motivated to have this conversation, connecting with the child, engaging in meaningful conversations, and supporting family's efforts toward financial stability, "I found these modules very helpful. I wouldn't have made an effort to discuss these things with my middle schooler even though I know how important they are.", "This has been very helpful for me to connect with my middle schooler on money and how to responsibly use it." "These modules helped us have meaningful conversations." and "I am so happy to have the opportunity to participate in the Money Talks modules. I feel

Table 2 Module respondent characteristics

Variables	Mean (SD)	N (total N = 319)	Missing in % (N)
Gender (male = 1)	0.20 (0.40)	233	8.2% (26)
Age (22–75)	41.25 (8.75)	298	6.6% (21)
Race (White = 1)	0.62 (0.48)	177	11.0% (35)
Annual household income	4.76 (2.07)	280	12.2% (39)
Less than \$50,000 (0/1)	39.8%		
\$50,000–\$150,000 (0/1)	39.5%		
Over \$150,000 (0/1)	8.5%		
Education (college = 1)	0.79 (0.41)	296	7.2% (23)
Marital status (married = 1)	0.58 (0.50)	292	8.5% (27)
Employment (full-time = 1)	0.73 (0.45)	293	8.2% (26)
Children, financially dependent (0–x)	2.48 (1.28)	297	6.9% (22)
Grade levels of siblings			
Younger than elementary school age, Under 5 years old	0.13 (0.34)	319	
Elementary school age, 5–11	0.42 (0.49)	319	
High school, 14–18	0.35 (0.48)	319	
Past High school age, over 18	0.17 (0.37)	319	
Current living arrangements	1.88 (0.70)	289	9.4% (30)
Only adult	24.8%		
Live with spouse/partner/significant other	56.1%		
Live in parents' home	6.0%		
Live with other family, friends, or roommates	3.8%		
missing/prefer not to say			
School District	2.03 (1.22)	296	7.2% (23)
Columbus City Schools	51.0%		
Cleveland Metropolitan	16.5%		
Cincinnati Public Schools	10.5%		
Other	22%		
Missing/prefer not to say			
Income since COVID-19	1.60 (0.74)	275	13.8% (44)
Roughly the same amount	48%		
Occasionally varies	25.1%		
Varies quite often	13.2%		
Missing/prefer not to say			
Savings account (yes = 1)	0.83 (0.38)	288	9.7% (31)
Missing/prefer not to say			
Retirement plans (yes = 1)	0.75 (0.43)	285	10.7% (34)
Missing/prefer not to say			
Investments (yes = 1)	0.47 (0.50)	284	11.0% (35)
Missing/prefer not to say			
Own home (yes = 1)	0.63 (0.49)		9.4% (30)
Missing/prefer not to say			
Auto loan (yes = 1)	0.56 (0.50)	294	7.8% (25)
Missing/prefer not to say			
Student loans (yes = 1)	0.48 (0.50)	289	9.4% (30)
Missing/prefer not to say			
Number credit cards (x–xx)	3.41 (2.90)	279	12.5% (40)
Missing/prefer not to say			

Table 3 Result of binary logistic regression results, odds ratios

	Descriptive statistics Mean (SD)	(1) Spending conversation frequency Coef. (SE) Odds ratio	(2) Banking conversation frequency Coef. (SE) Odds ratio	(3) Saving & investing conversation frequency Coef. (SE) Odds ratio	(4) Credit & debt conversation frequency Coef. (SE) Odds ratio	(5) Financial decision-making conversation frequency Coef. (SE) Odds ratio	(5) Time Investment Coef. (SE) Odds ratio
Financial knowledge score (0–1)	0.44 (0.33)	− 0.40 (0.65) 0.67 p = 0.534	− 0.06 (0.47) 0.938 p = 0.891	0.01 (0.48) 1.057 p = 0.908	0.16 (0.47) 1.171 p = 0.738	0.24 (0.49) 1.266 p = 0.628	0.20 (0.47) 1.218 p = 0.676
Money management score (1–5)	3.75 (0.85)	0.27 (0.24) 1.31 p = 0.272	− 0.27 (0.19) 0.765 p = 0.160	− 0.45* (0.20) 0.637 p = 0.022	0.14 (0.19) 1.152 p = 0.451	0.04 (0.18) 1.040 p = 0.831	− 0.28 (0.19) 0.756 p = 0.144
Financial difficulty (1–3)	2.24 (0.70)	0.56 (0.34) 1.75 p = 0.095	0.004 (0.23) 1.004 p = 0.987	0.09 (0.23) 1.098 p = 0.689	− 0.51* (0.24) 0.599 p = 0.031	0.24 (0.23) 1.277 p = 0.297	− 0.39 (0.24) 0.680 p = 0.103
Confidence achieving financial goal (1–4)	3.06 (0.73)	− 0.14 (0.30) 0.867 p = 0.627	0.15 (0.21) 1.156 p = 0.497	− 0.02 (0.22) 0.978 p = 0.919	− 0.16 (0.22) 0.855 p = 0.469	− 0.002 (0.22) 0.998 p = 0.992	0.08 (0.22) 1.086 p = 0.709
Confidence having financial conversations (1–4)	3.21 (0.69)	0.87** (0.30) 2.375 p = 0.003	1.27*** (0.25) 3.56 p < 0.001	1.31*** (0.25) 3.701 p < 0.001	1.24*** (0.26) 3.46 p < 0.001	0.80*** (0.23) 2.233 p < 0.001	0.82*** (0.25) 2.262 p < 0.001
Control variables							
Male (0/1)	0.20 (0.40)	− 0.17 (0.54) 0.841 p = 0.749	0.89* (0.34) 2.435 p = 0.024	1.07** (0.41) 2.909 p = 0.009	0.89* (0.38) 2.44 p = 0.019	0.38 (0.40) 1.459 p = 0.341	1.06** (0.38) 2.881 p = 0.005
Age (22–75)	41.3 (8.75)	− 0.003 (0.02) 0.997 p = 0.913	− 0.015 (0.02) 0.985 p = 0.371	− 0.02 (.02) 0.983 p = 0.338	− 0.03 (0.02) 0.971 p = 0.09	− 0.03 (0.02) 0.973 p = 0.102	− 0.06** (0.02) 0.941 p = 0.002
White (0/1)	0.62 (0.49)	0.31 (0.48) 1.364 p = 0.521	0.29 (0.33) 1.337 p = 0.379	− 0.22 (0.33) 0.801 p = 0.505	0.40 (0.33) 1.497 p = 0.223	0.62 (0.33) 1.860 p = 0.060	0.26 (0.35) 1.300 p = 0.450
Higher Education (0/1)	0.79 (0.41)	1.31** (0.47) 3.709 p = 0.005	0.37 (0.39) 1.45 p = 0.344	0.34 (0.40) 1.407 p = 0.394	0.01 (0.39) 1.013 p = 0.973	0.19 (0.39) 1.208 p = 0.621	− 0.50 (0.39) 0.609 p = 0.205
Homeowner (0/1)	0.63 (0.49)	0.31 (0.48) 1.360 p = 0.524	0.66 (0.35) 1.932 p = 0.057	0.24 (0.35) 1.268 p = 0.497	0.54 (0.36) 1.720 p = 0.129	0.11 (0.35) 1.113 p = 0.760	− 0.24 (0.36) 0.787 p = 0.501
Mean (SD)		0.86 (0.34)	0.56 (0.50)	0.62 (0.49)	0.46 (0.50)	0.64 (0.48)	0.36 (0.48)
Chi-square (df)		31.25 (10)	46.96 (10)	46.20 (10)	47.95 (10)	26.70 (10)	46.50 (10)
N		265	255	261	257	251	258

***$p < 0.001$; **$p < 0.01$, *$p < 0.05$

Table 4 Means comparison of baseline and follow-up survey responses

Variable	(1) N	(2) Mean baseline survey (SD)	(3) Mean follow-up survey (SD)	(4) Paired samples t test	(5) Power analysis power (effect size)
Time investment (scale coding)	29	2.28 (0.92)	2.72 (0.84)	− 2.15* p = 0.04	0.736 (0.498)
Time investment (range midpoint)	29	2.28 (0.92)	2.72 (0.84)	− 2.15* p = 0.04	0.736 (0.498)
Time investment (range upper)	29	2.17 (0.76)	2.55 (0.63)	− 2.26* p = 0.03	0.801 (0.539)
Time investment (range lower)	29	2.28 (0.92)	2.72 (0.84)	− 2.15* p = 0.04	0.736 (0.498)
Conversation: spending	31	3.55 (0.72)	3.48 (0.81)	0.44 p = 0.66	0.078 (0.091)
Conversation: banking	30	2.77 (0.97)	3.20 (0.85)	− 1.75 p = 0.09	0.700 (0.469
Conversation: saving and investing	30	2.87 (1.04)	2.93 (0.87)	− 0.27 p = 0.79	0.062 (0.062)
Conversation: credit and debt	30	2.57 (1.10)	2.73 (0.98)	− 1.00 p = 0.33	0.128 (0.153)
Conversation: decision-making	29	2.90 (0.93)	3.17 (0.66)	− 1.28 p = 0.21	0.395 (0.326)
Confidence: spending	31	3.51 (0.85)	3.45 (0.77)	0.35 p = 0.73	0.068 (0.074)
Confidence: banking	31	3.29 (0.86)	3.42 (0.76)	− 0.68 p = 0.50	0.138 (0.160)
Confidence: saving and Investing	31	3.23 (0.88)	3.45 (0.68)	− 1.27 p = 0.21	0.317 (0.275)
Confidence: credit and debt	30	3.37 (0.81)	3.40 (0.86)	− 0.17 p = 0.87	0.054 (0.036)
Confidence: decision-making	31	3.23 (0.85)	3.26 (0.86)	− 0.17 p = 0.87	0.054 (0.035)

Post-hoc power analysis with G*Power: Statistical power 1-β is computed as a function of the significance level α (5%), the population effect size, and the sample size N

***$p < 0.001$; **$p < 0.01$, *$p < 0.05$

like our financial future is much, much brighter now, than before the modules. Our family will continue to put in the work, so that we have will have financial stability. Thank you for the many resources and activities."

Comments further stated that the "Money Talks" modules provided relevant knowledge and emphasis, "I like how short the modules are and still give important information." And "I also learned or got a refresher on these topics and feel it will make me mindful moving forward."

Finally, study participants indicated that the "Money Talks" modules are "Very fun and informative; we enjoyed it."

Actions Planned to Implement Financial Conversations

The five "Money Talks" modules collected study participant data on three items: conversation starters to use with the middle school child, financial conversation activities to do with the middle school child, and requested an action plan for conversation starters and financial conversation activities.

Table 5 provides the frequencies in which conversation starters were selected by study participants in each module. Top choices included questions that were shorter and address happiness: "How is spending money affecting your happiness? What about saving money?" and "Can you remember a situation when you spent money and were unhappy about it later? Why were you unhappy? What would you do differently?" Least popular choices were long-winded questions ("Let's pretend you have a wealthy grandma who, on your birthday, bought you 100 shares of company stocks. Which companies' stocks would you like to have? Can you list 5 companies that you buy things from often?"), questions that might feel intrusive to a middle school child, ("What is your most important financial goal?") and knowledge questions ("Where would you pay with a debit card?").

Table 5 Conversation starters in each module, by frequency of selection

Item	Selected by N (%)
Conversation Starters for Module 1: Spending money	100% (233)
How is spending money affecting you happiness? What about saving money?	33% (77)
If you made a plan for your spending, what would it include?	31% (72)
How do you prioritize the things you spend on?	29% (67)
Have you compared prices when going shopping? Did you find a good deal?	28% (65)
What is your most important financial goal?	20% (46)
Conversation Starters for Module 2: Banking	100% (34)
How would you use a debit card if you had one?	47% (16)
Where is our nearest ATM? How do you think ATMs work?	44% (15)
Do any of your Friends have debit cards?	44% (15)
Where is our nearest bank Branch? What do you think they do in that bank branch?	41% (14)
Where would you pay with a debit card?	35% (12)
Conversation Starters for Module 3: Saving and investing	100% (33)
What are you savings goals? When do you plan to achieve your #1 goal? Are you on track?	61% (20)
How much money do you have in your savings? How did you save that money?	58% (19)
From your last pocket money or money gifts, how much did you put in savings?	55% (18)
Let's pretend you have a wealthy grandma who, on your birthday, bought you 100 shares of company stocks. Which companies' stocks would you like to have? Can you list 5 companies that you buy things from often?	33% (11)
Conversation Starters for Module 4: Credit and debt	100% (30)
You can borrow money at a bank but it doesn't give you money for free. How much would you be willing to pay a bank for borrowing $100? What would be the costs?	50% (15)
You talked about wanting to buy [insert desired item] but don't have enough cash or savings. Would you be willing to borrow money for it?	47% (14)
If you need money and don't have enough yourself, whom would you ask?	47% (14)
How much time would you need to pay the money borrowed back?	53% (16)
Do you know how a credit card Works?	57% (17)
Conversation Starters for Module 5: Financial decision-making	100% (34)
Can you remember a situation when you spent money and were unhappy about it later? Why were you unhappy? What would you do differently?	68% (23)
Have you tried to compare the prices at different stores?	68% (23)
How do your friends spend their money? Does their spending influence yours?	65% (22)
Think about the last few months. Which money-related decisions have been difficult?	38% (13)

Table 6 provides the frequencies in which financial conversation activities were selected by study participants in each module.[2] The most popular selection is entitled "Personal financial decision-making" (76% of the module's sample selected it). It is a two-page handout that starts with a note to parents/caregivers, a priority-setting activity on paper, and ended with a list of thought questions. The second popular activity was "Savings vs. Checking accounts" (selected by 74%). This six-page handout provides an overview of accounts, warm-up questions, definitions, an infographic, a short activity and thought questions. The 2nd most selected activity "Why saving is important" (70% of the module's sample) is a three-page handout consisting of an introduction for parents/caregivers, discussion points, a written activity, and reflection questions.

The third data component of the "Money Talks" modules asked study participants to make an action plan for having financial conversations with their middle school children. Following findings about the positive role of implementation intentions for encouraging behavior, study participants were asked to identify day, time of day, and topic of their planned financial conversation. A total of 77% to 94% of study participants provided information on at least one of the three items, see Table 7.

Table 8 provides the responses received for "day" and "time of day" and Table 9 for "topic" in the action plan data fields. The frequencies were calculated across the five modules. The most frequent responses for the day in which the conversation is planned was "weekend" (36%), "today" (31%) and "tomorrow" (45%). The most frequent response

[2] The activities are accessible here: [URL removed for study review].

Table 6 Financial conversation activities

Item	Selected by N (%)
Conversation Starters for Module 1: Spending money	100% (233)
"How do you budget" worksheet	38% (88)
"Comparison shopping" worksheet	33% (77)
Conversation Starters for Module 2: Banking	100% (34)
Savings vs. Checking accounts	74% (25)
Checking accounts	32% (11)
Opening a savings account	29% (10)
Conversation Starters for Module 3: Saving and investing	100% (33)
Why saving is important	70% (23)
Calculate how to save	67% (22)
5 stocks on your birthday	30% (10)
Conversation Starters for Module 4: Credit and debt	100% (30)
Credit: What is it, what to know, what to do	67% (20)
Getting a credit card and using it wisely	67% (20)
Avoiding debt	60% (18)
Conversation Starters for Module 5: Financial decision-making in general	100% (34)
Personal finance decision-making	76% (26)
Envision your future life	68% (23)
Preparing for high school	68% (23)
Career exploration	48% (16)

The activities are accessible here [URL]

Table 7 Frequency of completing action plans in each "Money Talks" module

Item: Action plan (day time, topic for financial conversation)	Selected by N (%)
Module 1: Spending money	94% (107/114)
Module 2: Banking	85% (29/34)
Module 3: Saving and investing	82% (27/33)
Module 4: Credit and debt	87% (26/30)
Module 5: Financial decision-making in general	85% (28/34)

for the time of day in which the conversation is planned was, by far, "after a meal" (46%). The most frequent topics planned for financial conversation was "spending" for Module 1, "banking" and "Checking vs savings" in Module 2, "saving" for Module 3, "credit", "credit cards", "avoiding debt" for Module 4, and "spending" and "financial decision making" for Module 5.

Table 8 Frequency of implementation intentions: day and time

Item	Selected by % (n/N)
Day	
Weekend	36% (77/213)
Today	31% (65/213)
Tomorrow	21% (45/213)
Weekday	9% (19/213)
Specified time of day (e.g., tonight, this afternoon, tomorrow morning list 3 examples)	1% (3/213)
Early next month, holiday, next month, next week	2% (4/213)
Time of day	
After meal	46% (90/194)
During/after an activity (e.g., on the way to school, after practice, after dog walk, list 3 example activities)	16% (31/194
During meal	14% (28/194)
Before meal	13% (25/194)
Specified time of day (e.g., evening, now, before bed list two more example times)	10% (20/194)

Table 9 Frequency of implementation intentions: topic

Item	Selected by % (N)
Topics Module 1: Spending money	100% (97)
Spending	31% (30/97)
Saving	13% (13/97)
Budgeting	12% (12/97)
Money	11% (11/97)
Money management	9% (9/97)
Comparison shopping	7% (7/97)
Investing	3% (3/97)
Checking acct; Bean game; Credit; Delayed gratification, Financial goals	10% (2 each/97)
Earning money; Importance of learning about money	2% (1 each/97)
Topics Module 2: Banking	100% (30)
Banking	33% (10/30)
Checking vs savings	27% (8/30)
Debit cards	23% (7/30)
Savings	7% (2/30)
Checking accts; Importance of money; What to do with money	10% (1 each/30)
Topics Module 3: Saving and investing	100% (30)
Saving	87% (26/30)
Saving and investing	10% (3/30)
Money management	3% (1/30)
Topics Module 4: Credit and debt	100% (32)
Credit	28% (9/32)
Credit cards	25% (8/32)
Avoiding debt	22% (7/32)
Credit and debt	16% (5/32)
Credit scores; Investment; Savings	9% (1 each/32)
Topics Module 5: Financial decision-making in general	100% (26)
Spending	23% (6/26)
Financial decision making	19% (5/26)
Financial goals and planning; Saving	23% (3 each/26)
Future planning; Comparison shopping; Wants vs needs	23% (2 each/26)
Allowance; Prep for high school; Investing	12% (1 each/26)

Satisfaction with Intervention

Parent and caregiver evaluation of the “Money Talks” modules was generally positive, see Table 10. Across modules, “starting a conversation” with their middle schooler was the item that was selected the most often, by 45% to 79% of respondents. The second most-selected benefit of the “Money Talks” modules reported was “knowing which topics” to talk about, which was selected by 35% to 68% study participants. Respondents indicated the least support for “doing an activity”, which only 29% to 59% selected. Evaluating parent and caregivers’ preparedness for supporting a child’s understanding of the five different topics, Module 5 on “Financial decision making” received the highest scores of 3.53 on a scale from 1 to 5; Module 1 on “Spending money” scored the lowest at 2.88 on a scale from 1 to 5. In the follow-up survey, 61% parents/caregivers reported being somewhat or very satisfied with the module. The question had an average score of 3.70 on a 1–5 scale. Additionally, 74% of parents/caregivers indicated that they would recommend the modules to another parent or caregiver.

A number of study participants left comments at the end of each module, please see Appendix Table 7 for the original comments. Four themes emerged from the participant feedback, comments about (1) the content of the Money Talk modules, (2) the motivation to engage in financial conversations, (3) parent and caregiver learning, and (4) technical issues.

Feedback on the content indicated parents/caregivers appreciated the selected topics and the access to “discussion topics, tools and activities”. Comments mentioned the “great tips on conversation starting” and that they “genuinely used

Table 10 Frequency of evaluation questions

Item	Selected by % (N) or Mean (SD)
Topics Module 1: Spending money	
Know which spending topics I should talk about with my middle schooler	35% (81/233)
Start a conversation with my middle schooler about spending	45% (105/233)
Do a spending related activity	29% (67/233)
Prepared to support child's understanding of spending money (1–5)	2.88 (1.13), n = 142
Topics Module 2: Banking	
Know which banking topics I should talk about with my middle schooler	65% (22/34)
Start a conversation with my middle schooler about banking	68% (23/34)
Do a banking related activity	59% (20/34)
Prepared to support child's understanding of banking (1–5)	3.29 (0.938), n = 34
Topics Module 3: Saving and investing	
Know which saving and investing topics I should talk about with my middle schooler	55% (18/33)
Start a conversation with my middle schooler about saving and investing	79% (26/33)
Do a saving and investing related activity	40% (13/33)
Prepared to support child's understanding of saving and investing (1–5)	3.45 (0.995), n = 31
Topics Module 4: Credit and debt	
Know which credit and debt topics I should talk about with my middle schooler	63% (19/30)
Start a conversation with my middle schooler about credit and debt	77% (23/30)
Do a credit and debt related activity	43% (13/30)
Prepared to support child's understanding of credit and debt (1–5)	3.57 (1.034) n = 28
Topics Module 5: Financial decision-making in general	
Know which financial decision-making topics I should talk about with my middle schooler	62% (21/34)
Start a conversation with my middle schooler about financial decision-making	79% (27/34)
Do a financial decision-making related activity	56% (19/34)
Prepared to support child's understanding of financial decision making (1–5)	3.53 (0.983) n = 32
Follow-up survey	
Overall satisfaction with five Money Talks modules (1–5)	3.70 (1.31) n = 81
Recommend the five Money Talks modules to another parent or caregiver (1–3)	1.26 (0.44) n = 73

some of the prompts" and "appreciate the prompts to talk to my daughter about banking, which I probably wouldn't have done otherwise". Activities "made the subject more approachable", that the "middle school students learned to make their own financial plans," commended the "very practical" nature of the modules, that were useful "to help even my high schooler understand better that you have to plan". The action planning was appreciated to nudge parents/caregivers to set a "specific time to make us accountable." Critical comments pointed out that "this is very basic information" and that "people with few financial resources budget all the time. They have to do it day by day because they have to for survival. So far these modules seem a bit racist and insulting."

A second set of feedback focused on the role of the "Money Talks" modules for motivating financial conversations. Parents/caregivers were "excited to start these conversations" and "introduce more of these topics" to their kids. Parents/caregivers were "motivated to have a conversation about spending" and share financial tools to avoid "making costly mistakes." Parents/caregivers felt the module gave them "a place to start the convo" and realized financial conversations were "not as hard as I thought it would be". The online activities helped parents/caregivers engage their kids "where if it was me [the parent] talking, they would zone out". The "questions and activities" helped get the "conversations started". Parents/caregivers found that the "short information is helpful for us parents/caregivers since we are always rushing through the day". Overall, the modules helped families start conversations and "think about money".

A third set of feedback focused on the role of the "Money Talks" modules for the parents' own financial literacy. Parents/caregivers saw the modules as an "opportunity to learn more as an adult parent". They felt more "aware" and "prepared" to manage their finances. Parents/caregivers "liked the resources on debt", felt more "knowledgeable" about their "credit situation", and developed "more ideas about saving". One parent commented, learning to use their money to "work towards a stable financial future". Additionally, parents/caregivers felt the modules were "meaningful", "informational", and a "mindset changing experience". They appreciated the opportunity to learn privately "without public humiliation", a potentially important benefit of self-directed, online modules.

A final set of feedback focused on technical issues. Some parents/caregivers had issues downloading the activities and suggested describing "the games before asking the participant to choose one" and having a link to all the activities for parents' reference. One parent could not "type responses to the banking activity". Another parent had trouble with an external link, to a "video on opening a checking account" that "stopped playing". Finally referring to the spending module, one parent stated that the module was "somewhat complex in design". Finally, another parent "would have loved an option to download the points and tips" that were included in each module. Although participants had the option to save their responses as a PDF once they submitted their responses, this comment was made in the first module before they would become aware of that option.

Discussion

This exploratory research study tested the role of a five-part online parenting module for encouraging parent/caregiver financial conversations at home with their middle school children during the COVID-19 pandemic. Our findings support the associations proposed in the family financial socialization model, with a specific focus on the family socialization process (Gudmunson & Danes, 2011). This exploratory study contributes new knowledge with regard to the linkages between personal and family characteristics, family interactions through conversation, and purposive financial socialization (Gudmunson & Danes, 2011; LeBaron & Kelley, 2021). Our key findings for each research question are as follows.

Findings for Research Question 1 showed that parents/caregivers of middle school children described in interviews, a number of financial conversation challenges that had been identified for parent–child financial conversations more generally, including concerns of placing unnecessary stress on children, finding the right time to talk, and difficulty making financial conversations developmentally appropriate and relevant to children who do not yet have financial responsibilities (Drever et al., 2015; LeBaron et al., 2020; Romo, 2011). These challenges in family financial interactions and relationships with the middle school child informed the structure and content of a series of online financial literacy modules for parents/caregivers, plus pre- and post-intervention evaluation instruments.

At baseline, participants' purposive financial socialization efforts indicated that our parent/caregiver sample was most likely to have conversations with their children about banking and saving. About 10.3% reported having conversations lasting at least 30 min. Binary logistic regressions results for Research Question 2 indicated that confidence having financial conversations as the most important indicator across the five conversation topics, as shown in earlier research (Osorio, 2019), as well as indicating varying levels of purposive financial socialization based on the personal finance topic.

Paired sample t tests of the baseline and follow-up surveys for Research Question 3 indicated changes in the lengths of time spent on financial conversations, higher levels of conversation frequency, and increased confidence in having financial conversations among the study parents/caregivers, particularly for speaking about saving and investing. Turning to the actions parents/caregivers selected to implement in module surveys, the results for Research Question 4 showed that a total of 77–94% of study participants provided information on at least one of the three action items to their middle school child. The most frequent responses for the day and time in which the conversation were planned was the weekend and after a meal. The two most popular activity selections are entitled "Personal financial decision-making" and "Savings vs. Checking accounts". The findings support the linkage between family interaction and purposive financial socialization, as proposed in the family financial socialization model (Gudmunson & Danes, 2011). While the data were self-reported and the sample for Research Question 4 is small, the results point to varying degrees of family financial socialization based on the personal finance topic.

According to the follow-up surveys for Research Question 5 (Results Sect. "Actions Planned to Implement Financial Conversations"), parents/caregivers were satisfied with the modules and willing to recommend the modules to others. The benefits most selected were learning to "start a conversation" and "knowing which topics to discuss". The results confirm for our study sample an empirical relationship between family interactions through conversation and purposive financial socialization, as proposed in the family financial socialization model (Gudmunson & Danes, 2011). Finally, four themes emerged from the participant feedback, comments about (1) the content of the Money Talk modules, (2) the motivation to engage in financial conversations, (3) parent and caregiver learning, and (4) technical issues.

Taken together, this study responds to recent calls for initiatives that promote family financial socialization (Hanson, 2022; LeBaron & Kelley, 2021). To the authors' knowledge, the current study is breaking ground by testing an online intervention that is focused on encouraging the family financial socialization process through financial conversations. Findings from this study support the family socialization process as proposed in the family financial socialization model (Gudmunson & Danes, 2011), highlights the potential of online financial literacy programs to promote family interactions in line with Spencer et al. (2020), and extends existing family financial socialization knowledge to the characteristics of middle school children and their parents/caregivers. The study increases our knowledge of disparities in the topics that are comfortably and frequently addressed in parent/caregiver financial conversations with their middle school children, adding nuance to the insights obtained from non-topical data collections, such as through the Parent–Child Financial Discussion Scale (LeBaron-Black et al., 2022).

Limitations of this exploratory study include the small sample sizes, despite extensive local recruitment efforts. A related, second limitation is the sample demographics, presenting a majority White and female urban population in the Midwest. As a result, the findings from the study are applicable to this population group. Professionally-managed consumer panels or larger survey efforts may be better able to recruit parents/caregivers that represent the national middle-school parent/caregiver population. Future research should also investigate the methods or strategies to encourage a higher number of parents to register for the financial literacy modules, using a larger number of recruitment methods. A third limitation is the study design that collected data only from parents/caregivers, without capturing the perspective of their middle school children. The results of this exploratory study paves the way for future research that includes the parent/caregiver and children dyad relationship. Additionally, the study is cross-sectional and does not speak to longitudinal effects. Future research should continue to examine the predictors of financial socialization behaviors and how online or offline approaches can promote family financial socialization by contrasting financial conversations, modeling, and experiential learning (LeBaron-Black et al., 2023).

In conclusion, this study provides new knowledge about parents' experiences with leading financial conversations with middle school children. We developed and tested a series of five online modules that provided subject-matter context, conversation starters, activities, and action planning for parents/caregivers. This study is exploratory due to its small scale and focus on a Midwestern urban population. Several implications for practice management, policy, and future research can be drawn from this effort. First, qualitative interviews pointed to five key topics in financial conversations, spending, banking, saving, credit and debt, and financial decision-making. Second, the demographic of parents/caregivers interested in this topic is mostly female, White, and middle aged with post-secondary education. Third, confidence about financial topics emerges as the most important predictor of financial conversations—across topics. Fourth, the follow-up survey points to a greater amount of time spent on financial conversations rather than more frequent conversations. Fifth, the modules were most effective in "Starting a conversation" with their middle schooler, per the modules' evaluation questions. Future research should experiment with different online and offline approaches for engaging parents/caregivers in financial conversations with their children and promoting other financial socialization methods such as financial modeling and experiential learning.

Implications for policy makers and financial educators in middle schools beyond parents and the family context are noteworthy. These implications are centered around effective program implementation and outcomes. First, a number of diverse outreach efforts are necessary to engage parents/caregivers in online family financial socialization training modules. Our study used emails sent by middle-school counselors and principals and weekly school newsletters as recruitment tools. Their effectiveness is limited, as noted in the study sample sizes. A multi-channel effort might be more effective, including recruitment in parent meetings at schools, through school-affiliated organizations (e.g., parent-teacher organizations), after-school programs, sport and faith-based organizations. Monetary incentives for participation may spark interest as well. A second insight relates to the follow-through rate for this kind of family socialization training. The current study experienced significant attrition over the five-week time frame. Similar efforts may test a variety of implementation time frames, such as one module per day instead of one module per week, and a variety of delivery modes, such as smartphone app based or paper based instead of computer based (Rowe et al., 2021). Third, policymakers and educators aiming to promote this type of parental training may also increase its attractiveness by adding multimedia, such as videos, and interactive learning components. The health sciences have role models in this regard (e.g., Scheier et al., 2019).

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Data Availability The generated during and/or analyzed during the current study are available in the OSF repository, weblink: https://osf.io/sjqv3/?view_only=35bdd0e77b3243aebd577b94d2ee9da6.

Declarations

Conflict of Interest No financial or non-financial conflicts of interest.

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