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Teachers' Background and Capacity to Teach Personal Finance: Results of a National Study

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An on-line survey of K-12 teachers was conducted to determine teachers' background and capacity to teach personal finance. Results indicate that while teachers recognize the importance of teaching personal finance, few have had formal preparation for teaching this subject matter; also, the teaching of personal finance is highly concentrated by grade level and discipline. Teachers feel limited in preparedness in both subject matter and pedagogy, particularly in the more technical topic areas of risk management and insurance and saving and investing. Perceived preparation and prior personal finance background varies greatly among disciplines. Teachers also have concerns about their own personal financial well-being, especially future retirement income adequacy.

Key Words: financial literacy education, personal finance, teacher readiness

Financial literacy education has moved from being a largely private concern to a national public policy issue as it has become increasingly clear that individual financial decisions collectively affect the national economy. Uncertainty about the adequacy of retirement savings, rising debt levels, and personal bankruptcy are no longer financial issues to be addressed solely by individuals (Braunstein & Welch, 2002; Draut & Silva, 2004; O'Neill, 2006). The assumption that greater knowledge improves financial behavior has led to efforts, including state mandates, to expand financial education at the elementary, secondary, and postsecondary levels.¹ Today, 80% of states have adopted personal finance education standards or guidelines of some kind; this is almost double the number of states (42%) that had such policies in 1998 (NCEE, 2007). An increasing array of educational program models, materials, and other resources are also now available for use in implementing financial education recommendations and mandates (Vitt, Reichbach, Kent, & Siegenthaler, 2005).

Despite this growing emphasis on financial education, little attention has been paid to understanding the characteristics and needs of the population that is pivotal to the implementation and success of personal finance education – the teachers. We found few studies that examined the extent

to which prospective or practicing teachers are interested in or value personal finance subject matter. In a survey of Indiana K-12 teachers, McCormick (2005) did find a high level of agreement among teachers that financial education subject matter was important, with middle and high school teachers expressing greater support for teaching the subject than elementary teachers.

Only two studies were identified that examined prospective and practicing teachers' preparation in this area; both were conducted in the late 1970's. Garman (1979) examined the consumer education knowledge of graduating teacher education students, and Lofgren & Suzuki (1979) assessed the consumer education and personal finance knowledge of practicing teachers. Using a 55-item instrument based on the 1972 Illinois Guidelines for Consumer Education and a national sample, Garman (1979) found that overall newly certified teachers answered only about 60% of the questions correctly. Graduates were most knowledgeable about topics related to the purchase of certain goods and services in the marketplace and least knowledgeable about saving and investment (50% of items correct) and taxes (45% of items correct). No significant differences in knowledge were found in relation to students' socioeconomic background; however, male graduates had significantly higher

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scores than females, those certified to teach secondary education had higher scores than those in elementary education, and those who had taken a consumer education course in college had higher scores than those who had not. New graduates certified to teach social studies, science, and home economics had the highest knowledge scores while those prepared to teach special education, art/music, and physical education had the lowest.

Lofgren and Suzuki (1979) used a 50-item instrument based on the Oregon Personal Finance Education Guide in their study of practicing teachers' consumer education/personal finance knowledge. The instrument addressed five topic areas (employment and income, money management, credit, purchase of goods and services, and rights and responsibilities in the marketplace), and teachers with backgrounds in business education, home economics, math, and social studies were surveyed. Only one-third of all teachers answered at least 70% of the items correctly, and fewer than 8% answered 80% correctly. No significant differences were found among the teacher groups in overall knowledge levels; however, math teachers scored significantly higher on the items related to money management.

Since no more current research could be located, it was not possible to tell whether K-12 teachers are now more prepared to teach personal finance than they were many years ago. Further, there was no way to know how prepared teachers were in subject matter versus pedagogy or whether or not teacher preparedness varied according to factors such as disciplinary background, age, gender, prior educational experiences or level, income, or race (O'Neill & Xiao, 2006). The present study was undertaken to address these gaps and provide further information that could inform efforts to meet teachers' personal and professional needs related to personal finance. Funded by the National Endowment for Financial Education, the study examined teachers' financial backgrounds and capacity to teach financial education at the K-12 school level. Specific objectives of the study were to ascertain teachers' prior education in personal finance topics and personal finance pedagogy, teachers' perceived competence in personal finance topics and pedagogies, and teachers' own personal financial concerns. The study also examined teachers' opinions about teaching personal finance education.

Methodology

Data for the study were gathered via on-line surveys of K-12 teachers in eight states; two states from each of the four U.S. census regions. In each of the states, teachers with e-mail addresses were identified from publicly avail-

able school district websites in one elementary, middle, and high school in a school district within each of three city sizes (small – 49,000 and below, medium – 50,000 – 199,000, and large – above 200,000). A total of three school districts and nine schools per state were included in the study.

Respondents were contacted initially using e-mail cover letters requesting that they log-in to a website containing the on-line survey. Lottery prizes (\$200 gift cards for BestBuy) and four follow-up reminders to non-respondents were used to enhance survey response rates. A total of 504 valid responses were received, a 15% response rate to all e-mails sent.

Respondent Characteristics

The K-12 teacher respondents closely mirrored the characteristics of K-12 teachers nationally in terms of gender, race/ethnicity, marital status, and educational level. Nearly three-fourths (71.3%) of the respondents were female, and a majority were white (83.9%) and married (71.2%) (see Table 1). Respondents were slightly younger and less experienced than teachers nationally, perhaps reflecting familiarity with and/or openness to participating in on-line

Table 1. K-12 Respondents' Gender, Race/Ethnicity, and Marital Status

	NEFE Sample %	National Data* %
Male	28.7	25.0
Female	71.3	75.0
Race/ethnicity		
White	83.9	83.1
Black	9.3	7.9
Hispanic	3.6	6.2
Other (American Indian.; Asian, Pacific Islander)	3.0	2.7
Marital status		
Married	71.2	73.1
Never married	14.6	15.2
Div/Wid/Sep	13.3	11.7

* Source: Gender & Race: NCES (2007) Table 3.7; Marital Status: NCES (2008) Table 69; NEFE: calculations by authors.

surveys. The sample had a median age of 43 compared to 46 years of age for teachers nationally and had a median of 10 years of teaching experience compared to the national average of 14 years. Virtually all held a bachelor's degree, and slightly over half (51.8%) held a master's degree. Respondents represented a wide range of grade levels and disciplinary teaching assignments. In terms of grade level, 9.9% taught Pre K-2, 12.4% grades 3-5, 31% grades 6-8, and 53.9% grades 9-12. Disciplines represented included elementary education (14.4%), mathematics (13.8%), English/language arts (13.6%), special education (13.4%), science (9.6%), social studies (9.4%), vocational/technical education (9.4%), art and music (5.7%), foreign language (5.2%), health education (3.5%), and English as a second language (1.5%).

Findings

Teachers' Preparation and Experience in Personal Finance: Descriptive Statistics

Only slightly more than one third ($n = 186$; 37%) of the teacher respondents reported that they had ever taken college coursework with any financial education-related content. The course most frequently reported having been taken (by 27.8%) was macro- or microeconomics followed by consumer economics (10.1%), personal/consumer finance (8.8%), and finance and investments (6.6%). Fewer than 3% had taken a college course that had content related to the teaching of personal finance. In a society where increased personal responsibility is being required for financial decisions and where schools are being asked to teach personal finance, this low percentage is disturbing both in terms of teachers' own personal financial management and in terms of their teaching competency.

Even fewer teachers said they had attended non-credit workshops related to personal finance topics, although it is not possible to say whether this is due to lack of interest, lack of access, or both. Only 18.9% of respondents reported having taken a non-credit workshop on financial education subject matter in the past 3 years, and only 11.6% reported having taken a non-credit workshop on teaching financial education during the same time period. While school districts are the more important providers of non-credit workshops on teaching financial education (7.1% reported taking such a workshop), teachers are more likely to have attended workshops provided by financial planners (8.5%) and financial institutions (4.6%). It is questionable, however, whether or not this content is oriented in ways most appropriate for K-12 students' financial education. Although very few of the K-12 teachers reported having taken formal courses or workshops on financial literacy

topics, they do seek out financial information through more informal avenues and for the purpose of addressing their own financial well-being. When asked whether they had ever engaged in several different financial planning practices, for example, about half (50.4%) of the teachers said they had consulted a professional financial planner, a third (33.8%) said they had consulted a benefits specialist at their place of employment, and nearly one-fourth (23.3%) indicated they had attended a workplace presentation on a financial topic. It appears that as a group, teachers do recognize the importance of having financial information, but see it as a topic more for personal than professional use and something to be attended to as needed episodically (e.g., at a teachable moment such as at the time of a new employment benefit offering or application for a mortgage) rather than studied more formally and as an occupationally-related subject.

When asked whether they had ever taught financial literacy topics, less than a third of the respondents (29.7%) reported that they had done so. Of these respondents, the largest percentage (25.5%) reported having integrated financial literacy topics into a regularly offered credit course they taught in another subject area rather than offering it as a separate, stand-alone course. Only 5.2% reported teaching a separate elective personal finance course, only 1.3% a separate required personal finance course, and only 1.3% a non-credit personal finance course.

Teachers' Preparation and Experience in Personal Finance: Multivariate Analysis

Several multivariate logistic regression analyses were used to assess how, if at all, teachers' background related to the likelihood that they would have taken or taught a formal course or workshop with personal finance content. Table 2 shows the results for the effect of characteristics on the probability a respondent had ever taken or had taught such a course. Predictors with a statistical significance level of $p \leq .05$ are highlighted.²

Variables included in this and other regressions were dictated by our interest in teachers' training and background, our hypotheses about how financial knowledge and interest may vary by teacher's training and background, as well as by limits of our on-line survey. Demographic variables included gender, race, and marital status (See Table 2A). Because teaching experience and age are highly correlated, we could include only one of these variables and chose the former because of the importance of the timing of training in determining whether financial education was included

in a teacher's education and the importance of seniority and experience itself in the ability of teachers to modify or introduce new curricula. We included measures of whether teachers were in states with financial education mandates because of the importance of state standards in determining the nature of teacher preparation as well as teaching assignments. We included the poverty incidence of the teachers' school districts because we were concerned that our on-line survey may have biased our respondents

towards wealthier districts. This turned out not to be the case. Finally, we included disciplinary areas since we hypothesized that teachers' disciplinary specialty would be a major factor in the relevant courses they had taken and the pressure on them to teach personal finance. Because teacher education is disciplinary focused, it is important to understand where the gaps in training, experience, and competency lie.

Table 2. Likelihood K-12 Teachers Have Taken and Have Taught a Course with Personal Finance Content

Variable	Have Taken a Course			Have Taught a Course		
	Odds Ratio	Robust SE	<i>p</i>	Odds Ratio	Robust SE	<i>p</i>
Experience	0.98	0.01	0.18	1.01	0.01	0.25
Female	0.55	0.13	0.02	1.46	0.43	0.19
Nonwhite	0.63	0.20	0.14	1.41	0.55	0.38
Married	1.23	0.29	0.39	1.11	0.31	0.70
State standards						
Testing	1.27	0.33	0.35	0.97	0.30	0.92
Content only	1.15	0.33	0.62	0.76	0.25	0.40
Course content						
Had course				3.43	0.93	0.00
Only workshop				1.56	0.64	0.27
Poverty rate	1.01	0.01	0.31	0.99	0.02	0.57
Discipline						
Special education	1.45	0.56	0.34	2.25	1.03	0.07
Art/music	0.54	0.32	0.30	0.82	0.62	0.79
English/LA	0.95	0.37	0.90	0.44	0.25	0.14
Foreign language	0.89	0.51	0.84	0.88	0.58	0.84
Math	0.81	0.32	0.59	4.08	1.84	0.00
Natural sciences	1.15	0.49	0.75	0.31	0.22	0.10
Social studies	3.41	1.52	0.01	3.59	1.68	0.00
Vocational/technical	4.83	2.18	0.00	6.45	2.97	0.00
Other	1.00	0.48	0.99	0.41	0.29	0.21

Note. Odds ratio with $p \leq .05$ are bolded.

Gender and subject-matter background are the only statistically significant predictors of the probability of having taken a for-credit course with personal finance content. Female teachers were about half as likely as male teachers (the reference group) to have taken a formal course related to personal finance. Also, compared to elementary education teachers (the reference subject-matter group), all other groups of teachers except social studies and those in vocational subjects were equally likely (or unlikely) to have taken a personal finance course. Social studies teachers were over three and a half times more likely, and those teaching vocational subjects (including family and consumer education) were nearly five times as likely to have taken a personal finance-related course.³ This is consistent with the traditional expectations that family and consumer education and social studies teachers would teach this content area. None of the other variables entered into the equation were significant predictors of having taken a course with personal finance content, including whether or not the state had policies related to personal finance education.

Having taken a course for credit is an important predictor of whether a teacher ever had taught a course with personal

finance content (See Table 2). Those having taken a course were more than three times as likely to teach a course, even when controlling for teaching in the areas (social studies and vocational subjects) where having taken a course was more likely. Compared to the reference group of elementary education teachers, those with backgrounds in vocational education and social studies were more likely to teach a course, as they had been more likely to take a course with personal finance content. Teachers of math were also significantly more likely to report having taught financial education even though they were no more likely to have taken a course. Interestingly while females were significantly less likely to have taken a course, they were no less likely than male teachers to teach personal finance topics. Neither of the state requirement variables was significant in the probability of teaching a course.

The finding that training and teaching is concentrated in a few disciplines is not surprising. Historically, vocational education programs (now also referred to as “career and technical education”), such as family and consumer education and business education programs, have taken a leadership role in developing and implementing personal

Table 2A. Logistic Regression Variables

	Explanation
Personal characteristics	
Experience	Years of teaching experience
Nonwhite	White = 1; Nonwhite = 2
Married	Married = 1; Nonmarried = 0
Female	Male = 1; Female = 2
State standards	(Excluded: no standards)
Testing	State requires testing at some level
Content	State sets content standards only
Course background	(Excluded: had no course or workshop)
Had course	Took personal finance course for credit
Workshop only	Only course was noncredit workshop
Poverty rate	% of families with children in poverty in teacher’s school district
Discipline	(Excluded: elementary education) Primary teaching discipline

finance curricula at the secondary school level because their teacher certification programs incorporate relevant coursework (Lofgren & Suzuki, 1979). Social studies and math teachers have also participated in these efforts because they are also often seen as teachers who either a) have relevant subject-matter backgrounds and/or b) teach courses in which personal finance content could be integrated easily. However, while social studies teachers are more likely to have taken a personal finance course, math teachers are not.

Teachers' Opinions about Personal Finance Education

Constructivist learning theory (e.g., Atherton, 2005) suggests that teachers' beliefs about a subject area—how it should be taught and to whom, as well as their beliefs about things such as the capability of different groups of learners and how expertise develops—are important determinants of teacher effectiveness. In order to reflect on such beliefs, teacher respondents were asked a number of opinion questions about financial education including in which grades and subject areas they thought financial education should be taught.

Despite the minority of teachers who themselves had had formal course work in personal finance topics (or perhaps because of it), teachers do widely believe financial education should be required for high school students and that teachers in their own disciplines should be better prepared than they are. As shown in Table 3, all but 11% of teachers strongly or moderately agreed that students should either be required to take a financial education course or pass a financial literacy test for high school graduation. However, many teachers apparently question its relevancy for the lower grades. Almost half of the teachers agreed with the statement that financial education is too complex a topic for elementary school children. When asked specifically “At what grade level should financial education be

taught?,” 92.2% agreed that it should be taught at grades 9-12 and about two-thirds (63.5%) selected middle school. Only a minority saw it as appropriate at the elementary school level: 36.9% said it should be taught at grades 3-5 and only 15.8% at the PK-2 grade level. Clearly, teachers see financial literacy as a high school topic and to a lesser degree perhaps appropriate for middle school students.

Teachers' Perceived Competency to Teach Financial Topics

To gain a sense of teachers' perceptions of their own preparedness to teach personal finance education, teachers were asked how competent they felt to teach specific topics included in educational standards such as those identified by the Jump\$tart Coalition (2007) and in the National Endowment for Financial Education High School Financial Planning Program (2007). As shown in Table 4, relatively few teachers reported feeling very competent in any of the areas identified. The topic areas for which teachers reported feeling most competent to teach were income and careers and planning and money management, but fewer than 20% selected the ‘very well prepared’ option in these areas. Teachers reported feeling least competent in the more specific areas of risk management and insurance, saving and investing, and financial responsibility and decision-making. Over half of the teachers felt ‘not very competent’ to teach risk management and insurance, and nearly half felt ‘not very competent’ to teach about saving and investing. Multivariate logistic regression analyses yielded some interesting findings about teachers' background characteristics that are associated with perceived lack of competency to teach personal finance topics. Table 5 shows predictors of who stated they did *not* feel competent to teach in each of six the areas. The log-odds present the odds (compared to the excluded category of elementary teachers) of the teacher saying they did not feel competent to teach the particular topic.

Table 3. Teachers' Opinions Regarding Financial Education Requirement

	Strongly Disagree %	Moderately Agree %	Strongly Agree %
Students should be required to take a financial literacy course or pass a literacy test for high school graduation.	11.0	42.8	46.2
It is too complicated for elementary school children.	48.6	42.9	8.5

Table 4. Teachers' Perceived Competency to Teach Financial Literacy Topics

Topic Area	Not Very %	Adequately %	Very %
Income and careers	26.6	54.1	19.3
Management	31.7	50.2	18.1
Credit and debt	33.3	49.9	16.9
Financial responsibility and decision making	40.8	46.5	12.7
Saving and investing	46.4	41.8	11.9
Risk management and insurance	52.7	39.1	8.2

The results are generally consistent with the evidence presented in Table 2 about teachers' preparation to teach financial literacy. Whether or not the participant had a college course in a personal finance-related subject area was a major predictor of their perceived competence to teach personal finance. Having had a course reduces the probability of saying one was not competent to teach in that area by about one half across all disciplines, with the possible exception of teaching topics on risk management and insurance.⁴ This finding is consistent with a constructivist view of learning which suggests that one's existing knowledge structure can affect one's ability to acquire new knowledge (Atherton, 2005).

Females, who were significantly less likely than male teachers to have taken a course with personal finance content but not less likely to teach a course (See Table 2), were one and one-half to two times more likely to report lack of competence to teach topic areas beyond income and careers, financial responsibility, and credit and debt. Also consistent with early findings about those most likely to take a course with personal finance content is the lower likelihood of teachers in vocational education fields feeling incompetent to teach in each of the six personal finance topics compared to teachers in the excluded group of elementary education. The results for social studies and math teachers are interesting given that teachers in these disciplines, as was the case for vocational education teachers, are more likely to teach a course with personal finance content. Along with teachers in many other disciplines, social studies and math teachers are less likely to report lack of competency to teach, what we would label the less financial technical areas, listed in the top bank of Table 5, but no less likely to express lack of competency in

the areas in the lower bank of Table 5.⁵ Math teachers do express more confidence in teaching savings and investment, which may reflect the relevance of some savings and investment concepts (e.g., interest compounding) to mathematical competency.

In states where educational testing or courses are mandated, teachers expressed no difference in teaching competency. This is consistent with earlier results in Table 2 that these state mandates had no influence on whether teachers had taken a course or had taught a course in personal finance.

Teachers' Perceived Competency in Personal Finance Pedagogy

Part of the survey asked teachers how well qualified they felt in four pedagogical domains related to personal finance education. These included familiarity with material that has defined educational aims for personal finance and their perceived ability to design curriculum, employ instructional strategies, and address learner needs.

Our interest in the effectiveness of mandates and guidelines led us to ask respondents about their familiarity with standards for financial education recommended by the Jump\$tart Coalition and their state. A vast majority of teachers reported being not well qualified to use either set of standards (71% and 64%, respectively), and 17% and 15% respectively reported not being familiar with these educational tools for establishing curriculum goals. It is interesting to note that the number of teachers reporting they felt 'not well qualified' to use personal finance education standards is far greater than the number reporting they felt 'not very competent' to teach the various personal finance topics or subject matter areas (See Table 4).

Table 5. Teachers' Perceived Lack of Competency to Teach Personal Finance Topics: by Area of Competency (1 = not very competent, 0 = else)

Variable	Financial Responsibility			Income and Careers			Planning and Money Management		
	Odds Ratio	SE	p	Odds Ratio	SE	p	Odds Ratio	SE	p
Experience	1.01	0.01	0.40	1.01	0.01	0.30	1.03	0.01	0.03
Female	1.06	0.27	0.83	0.97	0.27	0.90	1.68	0.46	0.05
Nonwhite	1.61	0.53	0.15	1.30	0.46	0.46	0.69	0.26	0.31
Married	0.77	0.19	0.30	0.86	0.23	0.55	0.96	0.25	0.89
State standards									
Testing	0.71	0.20	0.23	1.13	0.33	0.67	0.87	0.24	0.61
Content only	0.61	0.18	0.11	0.66	0.22	0.21	0.57	0.18	0.08
Course Background									
Had course	0.47	0.11	0.00	0.56	0.15	0.04	0.52	0.14	0.01
Only workshop	0.86	0.29	0.66	0.50	0.20	0.09	0.46	0.18	0.05
Poverty rate	0.97	0.01	0.06	0.99	0.02	0.48	0.99	0.02	0.35
Discipline									
Special education	0.41	0.17	0.04	0.18	0.09	0.00	0.30	0.14	0.01
Art/music	0.43	0.24	0.13	0.46	0.25	0.16	0.49	0.27	0.20
English/LA	0.52	0.21	0.10	0.31	0.13	0.00	0.75	0.30	0.47
Foreign language	0.36	0.19	0.05	0.35	0.20	0.07	0.61	0.34	0.37
Math	0.43	0.17	0.04	0.31	0.13	0.00	0.29	0.13	0.00
Natural sciences	0.49	0.21	0.10	0.35	0.16	0.03	0.39	0.18	0.04
Social studies	0.36	0.17	0.03	0.21	0.11	0.00	0.91	0.42	0.84
Vocational/technical	0.25	0.12	0.00	0.12	0.07	0.00	0.18	0.10	0.00
Other	1.39	0.71	0.52	0.54	0.26	0.19	0.88	0.42	0.79

Note. Odds ratio with $p \leq .05$ are bolded.

Research on teaching has revealed that effective teachers are able to draw on several different kinds of knowledge related to the subject(s) they teach (Arends, Winitzky, & Tannenbaum, 2001; Shulman, 1987). The fact that a disparity apparently exists between teachers' perceived competence to teach personal finance subject matter and their competence to use a specific set of personal finance educational tools serves as a reminder of the importance of considering different kinds of teacher knowledge (i.e., subject matter and pedagogy) in designing programs to nurture teacher development.

Besides widely feeling unqualified to use the two types of personal finance educational standards, teachers also reported feeling limited in their ability to design disciplinary-specific curriculum and resources, employ instructional strategies, and assess specific learner needs. As shown in Table 6, over half of teachers reported feeling 'not well qualified' to integrate financial education concepts into their discipline, use on-line learning resources, modify financial education methods and content for diverse learners, or develop examples to explain financial concepts. Similar numbers reported feeling 'not well quali-

Table 5. Teachers' Perceived Lack of Competency to Teach Personal Finance Topics: by Area of Competency continued (1 = not very competent, 0 = else)

	Credit and Debt			Risk Management and Insurance			Savings and Investment		
	Odds Ratio	SE	p	Odds Ratio	SE	p	Odds Ratio	SE	p
Experience	1.01	0.01	0.26	1.00	0.01	0.90	1.00	0.01	0.87
Female	1.58	0.40	0.07	1.63	0.40	0.04	1.93	0.47	0.01
Nonwhite	0.69	0.24	0.28	1.06	0.35	0.85	1.01	0.32	0.97
Married	0.99	0.25	0.97	1.08	0.25	0.74	0.83	0.20	0.42
State standards									
Testing	0.76	0.22	0.33	1.05	0.28	0.85	0.73	0.20	0.25
Content only	0.60	0.19	0.10	0.60	0.17	0.07	0.67	0.19	0.17
Course Background									
Had course	0.54	0.13	0.01	0.69	0.16	0.11	0.46	0.11	0.00
Only workshop	0.84	0.31	0.65	0.78	0.26	0.46	0.67	0.23	0.23
Poverty rate	0.98	0.02	0.17	0.98	0.01	0.13	0.99	0.01	0.65
Discipline									
Special education	0.51	0.23	0.13	0.64	0.27	0.30	0.62	0.26	0.24
Art/music	1.25	0.67	0.68	0.84	0.46	0.75	0.74	0.41	0.58
English/LA	0.38	0.16	0.02	0.56	0.22	0.15	0.46	0.18	0.05
Foreign language	0.34	0.20	0.07	0.60	0.31	0.33	0.48	0.25	0.16
Math	0.59	0.23	0.18	0.51	0.20	0.09	0.34	0.13	0.01
Natural sciences	0.54	0.25	0.19	0.52	0.24	0.15	0.68	0.32	0.41
Social studies	0.41	0.20	0.06	0.70	0.32	0.44	0.50	0.23	0.13
Vocational/technical	0.27	0.14	0.01	0.30	0.14	0.01	0.42	0.19	0.05
Other	1.31	0.62	0.57	0.94	0.45	0.89	0.50	0.25	0.16

Note. Odds ratio with $p \leq .05$ are bolded.

ified' to determine how students' social/cultural background relates to financial understanding or to assess the impact of instruction on students' financial behavior.

Teachers' Personal Financial Concerns. Teachers were also asked whether or not they were concerned about a set of issues that are known to often comprise financial concerns. These are identified in Table 7. The top five concerns expressed by the teachers relate to: whether they will have enough money for retirement, finding ways to supplement their income as a teacher, paying for their chil-

dren's college education, knowing whether they are using the best strategies for investing their money, and knowing whether they are taking advantage of tax laws that may benefit them. The concern about retirement savings mirrors findings of the 2008 Employee Benefit Research Institute (EBRI) Retirement Confidence Survey, which found that only 18% of respondents were confident they would have enough money in retirement, 43% were only somewhat confident, and 37% were not confident or not at all confident that they would have enough money in retirement. The findings of the present study also closely mirror

Table 6. Teachers' Perceived Qualification in Other Pedagogical Domains: Personal Finance Curriculum, Instruction, and Students

	Not Well Qualified %	Adequately Qualified %	Very Well Qualified %
Pedagogical Domain			
Design curriculum and resources			
Integrate financial literacy concepts in your discipline(s)	54.6	36.8	8.7
Use on-line financial literacy learning resources	55.9	34.0	10.1
Employ instructional strategies			
Modify financial literacy methods and content for diverse learners	58.0	33.3	8.7
Develop examples to explain financial literacy concepts	60.0	32.2	7.8
Assess learner needs			
Students' financial literacy understanding	49.3	39.3	11.4
How social/cultural background relates to financial literacy understanding	54.3	35.8	9.8
Degree to which instruction affects students' financial behaviors	56.9	36.2	6.9

those of the EBRI Retirement Confidence Survey in the area of investments. When asked whether they agreed with the statement that they and their spouse were knowledgeable about investments and investment strategies, 32% of Retirement Confidence Survey respondents disagreed. Results suggest that K-12 teachers share at least these two financial concerns with other US workers.

One interesting insight is that although the financial topic area of 'income and careers' was the subject area that teachers felt most competent to teach, income (not having sufficient income to meet needs and determining how to supplement one's income) ranked among the top personal financial concerns for teachers. The examples included in the subject-matter expertise portion of the survey under 'income and careers' were 'Identify sources of personal income' and 'Describe factors affecting take-home pay.' One might speculate that the subject-matter survey questions did not adequately represent the challenges of providing financial education or at least kinds of challenges teachers seemed to experience in their own lives.

Since teachers were asked only about felt concerns and not actual financial status, it is not possible to draw conclusions about how well teachers' concerns align with actual financial behavior and/or objective indicators of financial well-being. Although few teachers expressed lack of understanding of basic financial issues and few expressed concerns about current spending issues (e.g., credit rates, auto insurance), it is noteworthy that income sufficiency is a top concern for a rather large proportion (one-third or more) of the overall teacher population.

A multivariate analysis of predictors of the key concerns revealed few predictors of teachers' financial concerns beyond those that would be expected at different life-cycle states (See Table 8). This suggests that K-12 teachers are fairly homogeneous regarding the financial issues that concern them. Not surprisingly, married teachers were more than twice as likely to express concern about paying for their children's college education when compared to non-married teachers. Race was also a significant predictor of this concern with nonwhite teachers 9% more likely

Table 7. Teachers' Personal Financial Concerns

Financial Concerns	<i>n</i>	<i>%</i>
Knowing whether I will have enough money for retirement	246	48.9
Determining ways to supplement my income as a teacher	205	40.8
Paying for my children's college/university education	198	39.4
Whether I am using the best strategies for investing my money	191	38.0
Whether I am taking advantage of all the tax laws that benefit me	179	35.6
Not having sufficient income to meet my needs	170	33.8
Whether I am making the best use of employer-sponsored savings or investment plans	139	27.6
My level of credit card debt	134	26.6
Understanding insurance options and costs during retirement (e.g. private insurance, employer-sponsored insurance, Medicare)	130	25.9
Developing an estate plan (e.g. wills, trusts, gifts)	129	25.7
Knowing which sources of financial information to trust	125	24.9
Understanding the role of social security in my likely retirement income	125	24.9
Covering the cost of my continuing education requirements	123	24.5
Paying of my college/university loans	115	22.9
Being able to develop and follow a realistic spending plan	106	21.1
Having funds to buy a home and meet my mortgage payments	106	21.1
Understanding and selecting long-term care insurance	96	19.1
Understanding and selecting personal/family health insurance coverage	78	15.5
Understanding and selecting the most appropriate life insurance option(s) for me and my family	69	13.7
Finding the best property and automobile insurance products to meet my needs	60	11.9
Whether I am getting the best rate when buying on credit	58	11.5

Table 8. Likelihood of Responding “Yes” About Having Selected Financial Concerns

Variable	Paying for Children’s College Education			Supplementing One’s Income As a Teacher			Knowing Whether Using the Best Strategies for Investing Money		
	Odds Ratio	SE	p	Odds Ratio	SE	p	Odds Ratio	SE	p
Experience	0.98	0.01	0.06	0.97	0.01	0.00	1.02	0.01	0.04
Female	0.84	0.20	0.47	0.80	0.18	0.31	1.13	0.27	0.59
Nonwhite	2.09	0.63	0.01	1.12	0.34	0.70	0.92	0.26	0.78
Married	2.30	0.54	0.00	0.87	0.19	0.54	1.11	0.25	0.64
State standards									
Testing	1.27	0.32	0.34	0.64	0.16	0.08	0.92	0.23	0.73
Content only	1.07	0.29	0.81	0.78	0.21	0.35	1.05	0.29	0.85
Course background									
Had course	0.84	0.19	0.43	0.94	0.21	0.79	1.18	0.26	0.45
Only workshop	0.78	0.26	0.46	1.24	0.40	0.51	1.20	0.40	0.58
Poverty rate	0.99	0.01	0.51	0.99	0.01	0.32	0.99	0.01	0.64
Discipline									
Special education	0.69	0.26	0.33	2.29	0.90	0.04	1.40	0.54	0.38
Art/Music	0.78	0.42	0.65	1.22	0.59	0.68	2.36	1.20	0.09
English/LA	0.66	0.25	0.26	0.91	0.35	0.80	1.65	0.61	0.18
Foreign									
Language	0.44	0.21	0.09	0.76	0.38	0.59	0.87	0.48	0.81
Math	0.82	0.31	0.60	1.10	0.41	0.79	2.07	0.79	0.05
Natural sciences	0.58	0.25	0.20	0.86	0.37	0.73	1.79	0.77	0.18
Social studies	0.84	0.36	0.69	0.76	0.33	0.53	1.40	0.62	0.44
Vocational/technical	0.91	0.38	0.82	1.30	0.55	0.53	1.40	0.61	0.44
Other	0.76	0.34	0.53	0.62	0.30	0.32	2.70	1.21	0.03

Note. Odds ratio with $p \leq .05$ are bolded.

to express the concern than white teachers. Two variables were identified as significant predictors of being concerned about supplementing one’s income as a teacher including years of teaching experience and being a special education teacher. This is perhaps not surprising given that as teachers gain experience they are more likely to have moved beyond earlier financial pressures such as paying college loans, establishing first-time home ownership, and manag-

ing higher infant and preschool child care expenses.

Two variables were also found to be significant predictors of teachers’ concern about whether or not they were using the best strategies for investing their money (See Table 8), years of teaching experience, and teaching in an “other” teaching category, which included individuals in positions such as English as a Second Language, ROTC, health edu-

cation, library science, or other. The likelihood of teachers expressing concerns about making wise investment choices increased about 2% with each additional year of teaching experience. This suggests that specific financial topics likely become more salient to teachers as they near retirement age, even though a general concern about sufficiency of retirement income does not vary significantly according to teachers' characteristics. Sufficiency of retirement income is the most-often mentioned financial concern (See Table 7) because it is a widely-shared concern rather than because it has greater importance for one group.

Conclusions and Implications

One striking conclusion of this study is that a majority of teachers recognize the need for personal finance education. All but a small minority (11%) agree or strongly agree that it would be desirable for students to take a financial literacy course or pass a test for high school graduation. At present, however, few teachers are teaching financial topics (29.7%) in any way. Disturbingly, from both personal and professional perspectives K-12 teachers are acquiring very little formal education in personal finance, whether through credit-based courses (only 37% of teachers had taken a related college course) or non-credit offerings (only 18.9% of teachers had taken a personal finance workshop, and only 11.6% a workshop on teaching personal finance). This is important because having had formal education related to personal finance, especially college coursework, is a significant predictor of teachers' perceived competence to teach personal finance topics.

A noteworthy finding is that teachers in some subject matter disciplines continue to receive more preparation in personal finance than others. Teachers with backgrounds in vocational education and social studies are more likely than those in other disciplines to have taken personal-finance related coursework for credit, and these teachers (as well as those in math) are the ones most likely to feel competent to teach and to actually be teaching financial topics.

Another conclusion based on findings from this study is that teachers' 'capacity to teach' personal finance is limited in terms of teachers' perceived preparedness in both subject matter and pedagogy. Teachers expressed the greatest hesitancy about the more technical topic areas of risk management and insurance and saving and investing, but having taken a personal finance-related course in college was a significant predictor of likelihood of feeling competent to teach five of the six subject areas examined. These findings are consistent with what the scant

prior research has revealed about teachers' readiness for demands of teaching personal finance. They also suggest that not much has changed over the past 30 years. In one of only two prior studies that examined teachers' personal finance-related subject matter knowledge, Garman (1979) found that teachers answered only about 60% of the questions correctly and that graduates were least knowledgeable about saving and investment (50% of items correct) and taxes (45% correct). Those who had taken a consumer education course in college had higher scores than those who had not. Garman also found that teachers certified to teach in social studies and home economics (now family and consumer sciences education) had the highest knowledge scores. Garman's objective assessment of teachers' subject-matter knowledge is, of course, not directly comparable with the self-assessment methodology used in the present study, but the similarities in the findings are notable nonetheless.

The teachers surveyed in this study were also more likely to feel unqualified than qualified in financial education pedagogy including ability to use financial education standards, design curriculum and resources, employ instructional strategies, and address learner needs related to personal finance. All but a very few teachers (12%) said they were either not well qualified to use or not familiar with the Jump\$tart Coalition standards for personal financial literacy. An important note is that there appears to be a great deal of variation in level of preparedness overall among teachers in various disciplines, with those in vocational education areas feeling the best prepared.

Again, these findings are consistent with previous research about teacher readiness. Parsad, Lewis, & Farris (2000) found, for example, in a national survey of teacher preparation that while most (96%) teachers felt very well or moderately well prepared for teaching overall, they felt much less prepared in specific aspects of pedagogy such as implementing state or district curricula (44%), implementing new methods of teaching (45%), or addressing the needs of students from diverse cultural backgrounds (32%).

One of the main implications of this study is that there is a great need to expand personal finance educational opportunities for pre-service and in-service teachers in order to meet both their personal and professional needs. A chief concern among practicing teachers is whether or not they will have sufficient money for retirement. They are also concerned with the related issues of whether they are using the best strategies for investing their money, how they can

supplement their income as a teacher, and how they can pay for their children's college education. Taken together, these concerns suggest that teachers would benefit from focused personal financial programs related to investment education. Based on the literature, teachers are justified in being concerned about short and long-term income adequacy. As a whole, teachers are disadvantaged in pay compared to those employed in other occupations requiring similar levels of education (Weaver, 2005). Also, there continues to be concern that few teachers are taking advantage of tax-deferred retirement contribution options and that, despite new regulations governing 403b investment plans available to teachers and other nonprofit organization employees, teachers are still given too little guidance in selecting from among the options available.

The findings of this study also indicate that teachers need assistance in learning more about both financial education subject matter and pedagogy. Based on teachers' own perceptions of their competency, priority should be given to the topic areas of risk management and insurance, saving and investment, credit and debt, and financial responsibility and decision making. Since most of the financial education currently being taught is through integrated rather than stand-alone curriculum and because there is so much apparent variation in teachers' perceived expertise based upon disciplinary background, financial in-service education would be most effective if either organized around homogeneous teaching specialty groups or tailored to include disciplinary-specific curriculum and instruction examples within heterogeneous in-service groupings. Finally, because a majority of teachers see financial education as a subject that is appropriate primarily for higher grades we also believe teachers need assistance in understanding the developmental nature of financial reasoning and in learning how to make financial concepts accessible at different grade levels. There are a few good examples of financial education materials for elementary school age children (e.g., Bailey & Law, 2006); however, most of those currently available are more appropriate for older audiences. This is an additional area of need – development of financial education curriculum resources that can be used to facilitate integration across the lower grade levels.

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- ³ The largest sub-group of teachers in the vocational education category was family and consumer education teachers (37% of this sub-group) followed by business education teachers (23% of this sub-group).
- ⁴ We evaluate significant coefficients at the $p < .05$ level. Small sample size reduces the power of statistical tests and so we do not ignore the possibility that results that just miss statistical significance levels may be due to Type II errors (the inability to detect results when they are true).
- ⁵ It is interesting to note that special education teachers reported feeling significantly more competent than the comparison group to teach in three of the six personal finance topics including financial responsibility, income and careers, and planning and money management. These are topics often emphasized in secondary school programs for vulnerable special populations, especially those focused on the transition from high school to young adulthood (Levine & Wagner, 2005).

Endnotes

- ¹ Increasing attention is being given to other factors that may overwhelm financial knowledge as a determinant of financial behavior, such as psychological makeup, stress, and advertising (see, for example, Lois Vitt's work at the Institute for Socio-Financial Studies: <http://www.isfs.org>).
- ² Odds ratios of 1.0 indicate the same likelihood as the reference group. Odds < 1.0 indicate a lower likelihood compared to reference group and odds > 1.0 a higher likelihood compared to the reference group.