

# Understanding Educators' Impact on Financial Literacy of Youth Populations: Strength of Relationship between the Basic Financial Knowledge of Educators and Their Willingness to Teach Financial Correlated Topics

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## Abstract

Adolescent and student populations within the United States have been significantly impacted by attributes that have contributed to a recent decline in financial literacy rates. Correlated factors such as age, parental guidance, quality of education, socioeconomic information, personal experiences and motivation have further contributed to this decline in understanding of financial knowledge. Unfortunately these circumstances present emerging implications of poor spending, debt accumulation, decreases in credit scores, tax filing difficulties, young adult bankruptcies, and a lack of desire to prosper throughout the financial world have become apparent as the severity of the issue is heightened. Individuals throughout the nation are not able to be exposed to the same levels of quality education, thus prompting the expedited decay in economic behaviors and financial information. Understanding the factors associated with this decline is essential to adopting solutions to assist those who are unable to do themselves. This financial regression case study analyzes the perceptions and basic knowledge of 204 members of Educational District A regarding financial literacy teachings and correlated financial topics, attempting to identify the logistic relationship between the financial knowledge of educators and their willingness to teach financial courses. The conducted study observed the personal beliefs of educators on financial teachings, considered their willingness to teach financial courses throughout their respective district, and assessed their basic financial knowledge, establishing a strong and significant relationship between their basic financial capabilities and their inclination to teach within their respective district. Ac-

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According to the results of the logistic regression analysis, data points indicate that the willingness of educators to teach financial topics is proportional to their basic economic capabilities.

## Keywords

Financial Literacy, Youth, Education, Economics, Educators, Students

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## 1. Introduction

In recent decades, there has been a decline in financial literacy rates throughout the growing youth population, specifically within adolescents and university students. This can be most significantly attributed to the quality of education being below the adequate standards, and students' lateral inability to interpret and retain specific information regarding economic data (Cameron et al., 2013). There are many factors shown to contribute to this decline, as identified by the financial sub-discipline, and display the harmful implications to the overall financial wellbeing of individuals affected by a decline in financial literacy. The financial sub-discipline is directly derived from the business and economics discipline, allowing for a specific focus on the financial aspect of the associated data. Complications such as patterns of poor spending, debt accumulation, decrease in scores of credit, tax filing difficulties, young adult bankruptcies, and a lack of effort to resort to the concept of "financial survival" become eminent as a direct result of poor financial teachings within the education system (Siegfried & Wuttke, 2021). Understanding and establishing the definite attributes that have allowed for the decline in financial literacy rates throughout the youth population is essential to adopting combative policies. This study seeks the establishment of an additional root cause of the decrease in financial literacy rates within academic institutions, with focus on the quality of education provided. The results of the intended survey will address the specific research question at the premise of this financial case study: How have the perceptions and knowledge of educators regarding financial information impacted their willingness to teach financial topics to members of the youth population throughout academic institutions?

Various reports and surveys have shown that without the reevaluation of financial literacy standards and teachings within academic institutions, the ability of the younger generations to interpret and proactively utilize financial data will continue to decline. Specific data points and trends have proven the recent decline in financial literacy rates throughout youth populations in recent years. This can directly be viewed in the context of surveys conducted by the Jump\$tart Coalition and RinggitPlus. A recent Jump\$tart Coalition financial survey found that a significant portion of high school and undergraduate students throughout the United States have inadequate financial knowledge: high school seniors who participated in the survey were provided with questions regarding debt, budgeting, saving, and investing and provided a median score of 48.3% (Jorgensen &

Savla, 2010). Jorgensen and Jyoti Savla observed this percentage gradually decay since the initial conduction of study in 1997. This lower percentage of data can greatly be attributed to the conclusions of the 2020 RinggitPlus Financial Literacy Survey. Data points indicated that nearly 60% of young adults are unable to survive for more than three months solely on savings, 47% agree that they spend exactly or more than they make, and 50% of these individuals have not begun retirement planning.

Understanding the reasoning behind decay in financial literacy rates in adolescence and the student population is essential to having a financially literate future. Providing background to this ongoing issue can lessen the significance and the negative implications that emerge from a decline in financial developmental knowledge. The California Department of Education Sacramento qualifies the term financial literacy as proficiency in the correlated topics of “financial responsibility and decision making, income and careers planning, and money management, credit and debt, risk management and insurance, and saving and investing” (2015). Although high school students throughout California are mandated to partake in a semester of economics, there are no charters requiring the teachings of financial literacy. Coursework for financial literacy is not required throughout the school districts of the state. The recent decay in financial literacy rates throughout youth populations may be influenced by the knowledge of educators regarding basic financial knowledge and the direct inclination of educators to instruct upon financial topics. Although external factors such as peer influence (Hashim et al., 2021), socioeconomic demographics (Iriani et al., 2021), and personal motivation (Rosdiana, 2020) have significant impacts upon the rates of financial literacy amongst youth populations and the preparedness of educators to portray economic data, the unwillingness of educators to teach financial topics may be attributed to their lack of financial knowledge, thus, further contributing to the decline of financial literacy rates. In addition to this, there is most probable association between the unwillingness of teachers to teach financial topics within their respective district and their basic financial knowledge. Both variables carry influence over one another and can be affiliated with the decay in financial literacy rates amongst youth populations. Educators that score poorly or below the median on the assessment of financial knowledge provided may not be willing to teach financial courses throughout their associated district, a direct influence of their lack of basic economic capabilities, thus, allowing for an additional contributing factor to the decay in financial literacy rates to emerge.

## 2. Research Structure

This financial logistic regression analysis directly analyzes the responses of educators in regards to their beliefs of financial literacy and financial teachings. A proposed Google Forms was exported to secondary school instructors within Educational District A consisting of eighteen questions. Following the conduc-

tion of data collection, the results were quantified and entered into the *XLMiner Analysis Tool Park's* logistic regression model, an extension of the Excel application. This inturn allowed for the formulation of a p-value which indicated a direct relationship between the basic financial knowledge of educators and their willingness to teach financial topics. Additionally, patterns of willingness, coupled with patterns of poor assessment scores, can be observed in the critical value produced. Sequentially, the quantified data was utilized in a descriptive statistical analysis which provides specific details upon the responses of educators in regards to their beliefs on financial teachings and their basic financial capabilities. To validate the questionnaire presented in the text, a Cronbach's alpha test was performed, allowing for the constructed questionnaire to be of relevance and significance.

### 3. Literature Review

In anticipation of understanding the specific attributes that display a direct correlation to the recent decay of financial literacy rates throughout the youth population, data and information regarding specific topics have been synthesized, allowing for the intended research to formulate conclusions as to why this complication is occurring. Researchers and studies in recent years have established an array of factors contributing to this decline of knowledge, but significant nuances such as age, parental influence, quality of education, and outside inference of instructors and peers have shown to be of the highest importance. Without accurate analysis of these correlated factors, individuals of the growing youth population are unable to be educated on the proper practices that may lead to financial prosperity. Further, without the proper introduction of solutions and conclusions to these individuals, financial literacy rates and economic behaviors of the youth will continue to decay, ultimately leading to an accumulation of debt, patterns of poor economic behaviors, bankruptcy, and complications affecting the mental capacities of the youth population.

#### 3.1. Quality of Education

The most prevalent concentration found is the quality of education and its direct correlation with the levels of financial literacy. Researchers such as Hsu-Tong Deng, Benjamin Heuberger, and Karen Varcoe, financial analysts and professors of economics at globally established educational institutions such as University of California Berkeley and Tsinghua University, were able to analyze the quality of education and its impact on the youth population. Depending on the educator, students are able to retain information in profuse amounts. For example, the *Journal of Financial Counseling and Planning* explains accurate ways to portray financial information to students: "Personal finance is taught most effectively to high school students if it is both interactive and relevant. Teens are more likely to attend to and learn when information is presented in a way that is interesting to them" (Varcoe et al., 2005). A common conclusion of researchers within this

specific category is that actively engaging students will allow for them to tolerate, but consume knowledge about the subject matter in a positive way. This finding is generally notable throughout regions of the world, but specifically prevalent in higher developed regions where the quality of education is much greater. The fiscal knowledge of educators, although an under researched component of the financial sub-discipline, has been questioned by individuals such as Hsu-Tong Deng. Briefly mentioned as a growing complication, Deng and fellow researchers found that educators may have lower levels of financial management knowledge because of their inability to pursue opportunities to on-job-study and advancement with their fiscal capabilities. The insufficient amounts of financial management knowledge of educators throughout institutions have the ability to prohibit the learning of economic information for students within these educational centers (Deng et al., 2013).

### 3.2. Contextual Information

Contextual information regarding the attributes that have led to a decay in financial literacy throughout the youth population has allowed for a greater understanding of the magnitude of the situation, and the establishment of significant factors that have contributed to the decline. Researchers such as Anisah Firli, Kamer Karakurum-Ozdemir, and Sang-Hee Sohn determined that correlated factors such as racial demographics, parental income, education levels, and student motivation all contribute to the decay of economic behaviors and literacy. Basic introduction of financial courses has allowed for greater levels of financial literacy, however, “students who completed a high school personal finance course tended to do a little worse on the national standardized financial literacy test than those who did not.” (Sohn et al., 2012) This specific excerpt of S. H. Sohn’s case study questions the outside inferences that may have contributed to this decreased performance. Further allowing for researchers to question the capabilities and perceptions of educators in regards to financial teachings. In conjunction with the findings of Sohn, Anisah Firli established similar attributes correlated with the decay in financial literacy rates throughout the growing youth population: “Gender, age, nationality, race, income, work experience, academic discipline and class rank as financial literacy measurement of the college student in [the] USA” (Firli, 2017). Contextual, concrete attributes that contribute to the decay in knowledge and economic behaviors allowed for the determination of specific under researched correlated factors throughout the subdiscipline. The direct association between variables associated with the perceptions and knowledge of educators is yet to be observed throughout the contextual framework of the research field.

### 3.3. Peer and Parental Influence

Peer and parental influence has shown to play a vital role in the development of financial literacy levels throughout youth populations. Researchers such as Bryce L. Jorgensen, Jyoti Savla, and Ashley LeBaron determined that the influences of

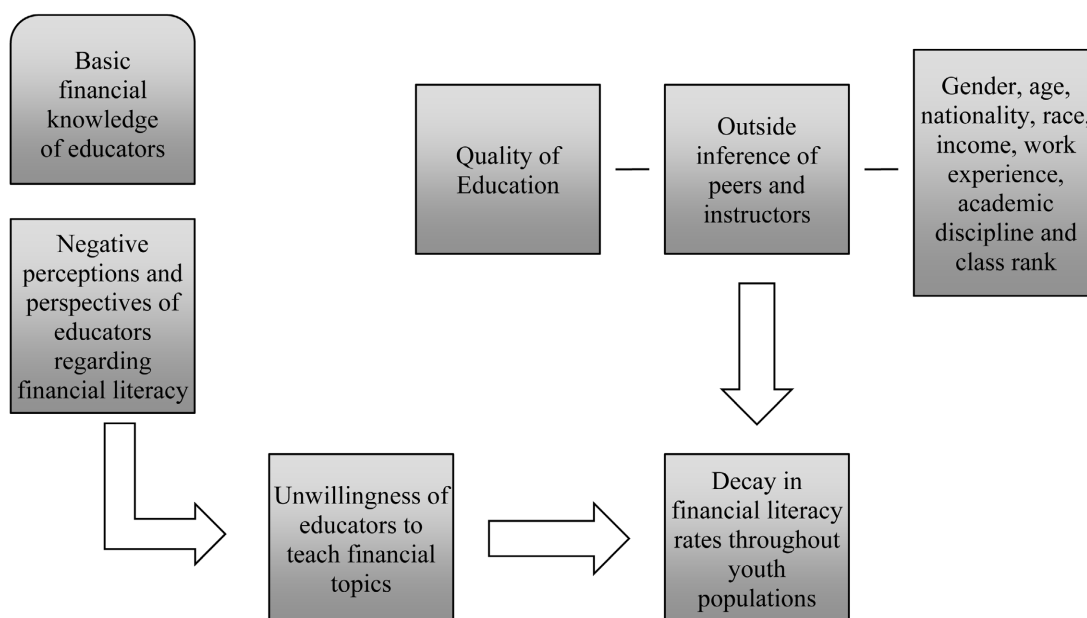
individuals close to you may have a direct influence on your financial capabilities. This can directly be seen through the claims of LeBaron and fellow researchers; “it is vital that financial counselors and educators involve parents to the greatest extent possible in teaching young people regarding finances. Financial instruction will be more impactful when it is from someone close and trusted, such as parents as well as personalized based on financial attitudes and values” (LeBaron et al., 2020). LeBaron and researchers explain that trust and familiarity directly correlate with impactful learning outcomes. In order to measure the data regarding peer and parental influence, researchers within this specific sub discipline have utilized various methods. Specifically, LeBaron was able to gather data from a survey conducted by the Flourishing Families Project, and synthesize information from literacy tests conducted in 2006 and 2016. In addition to this, Jorgensen analyzed data from the College Student Financial Literature survey, and determined that parental influence has a great impact on their child’s level of financial knowledge.

### **3.4. Formulation of Research Gap**

Although there are vast amounts of information and research relating to the decay in financial literacy rates throughout the youth population, data regarding the willingness of educators to teach financial topics throughout their respective districts, and its relationship with the basic knowledge of educators regarding the pillars of financial literacy, financial responsibility and decision making, income and careers planning, and money management, credit and debt, risk management and insurance, and saving and investing, has been limited within the financial sub discipline. Formulated surveys will be given to educators of Educational District A. These surveys will analyze the personal perceptions of educators regarding financial teachings throughout educational institutions, their willingness to provide information regarding financial teachings, and will test the financial knowledge of the surveyed individuals to understand their abilities to portray information to their associated students; questions presented will align with the previously stated principles of financial literacy. The intended results of the survey will allow for conclusions to be drawn regarding a possible contributing factor of the gradual decay in financial literacy rates in youth populations and will provide quantifiable information to further address the gap in research throughout the financial sub-discipline. The quantified data will be utilized in a logistic regression analysis to measure the strength of relationship between the basic knowledge of educators and their willingness to teach financial topics, thus, allowing for a new perspective to be seen and addressing an area of research that is currently not analyzed. This, in turn, will investigate an under researched topic of inquiry and will extend the knowledge of the discipline, attempting to formulate an additional factor that has contributed to the decay in financial literacy rates throughout youth populations. The association between the two variables will be examined, extending information to the discipline, as-

sisting future research within the topic of inquiry. Basic knowledge of financial standards may have the potential to determine the comprehensible capabilities of educators to effectively portray financial information to their students. In addition, the personal willingness to teach the various financial topics may have a significant impact on the decay in financial literacy rates amongst young adults if the validity of the hypothesis presented is upheld.

### 3.5. Theoretical Framework



## 4. Research Design

### 4.1. Methodology

Specific research operations will take place throughout the composition of the intended research around understanding the decay in financial literacy rates and economic behaviors of individuals throughout the youth population. Descriptive statistical and logistical regression analyses from quantifiable information, attained from survey conduction and will be utilized to address the research question and hypothesis presented. Data regarding the willingness of educators to teach financial topics and their basic financial knowledge will strictly be derived from the survey conduction.

The lack of information regarding the willingness of educators to teach financial topics and the basic financial knowledge of the educators will be explored through the conduction surveys throughout the teacher population of Educational District A. Human participants, specifically the teacher population of Educational District A, will be provided with surveys to answer. These surveys will analyze their personal beliefs of financial literacy, their willingness to provide information regarding financial teachings, and will test the financial knowledge of the surveyed individuals to understand their abilities to portray information

to their associated students. The ten proposed questions of the survey align with the basic standards presented by the California State Board of Education Sacramento, financial responsibility and decision making, income and careers planning, and money management, credit and debt, risk management and insurance, and saving and investing. This data is strictly collected through the application of Google Forms. Google Forms allows for the acceptance of educator responses, quantification of the intended results of the survey will specifically examine the perceptions and perspectives of educators to effectively portray economic data and challenge the ability of educators to display their financial knowledge, allowing for the quantification and formulation of data to examine the association between the basic financial knowledge of educators and their willingness to teach financial topics. Following the conduction of surveys, descriptive and inferential statistical analyses will be administered to detail reported information and understand the impact that educators may have on the decay in financial literacy rates. To assist the explanation of declining rates, a logistical regression analysis will be conducted, measuring the strength of the relationship between the financial knowledge of educators and their willingness to teach financial courses or topics within their district, attempting to understand the significance of the association. The test scores provided by the educators, a score of 0 - 10, and the willingness of educators to teach financial topics, coded as "1" for yes and "0" for no, will be utilized to quantify the results of the survey. This specific methodology is essential to finding an association between the two variables. In comparison with a correlational study, the logistic regression analysis will best fit the intended research project because a measure of strength is desired and the intended study aims to answer questions that have two finite outcomes, as seen through the willingness of educators to teach financial topics, or their specific score on the assessment provided. The dependent variable of the study, the willingness of educators explores this condition, only allowing for a "yes" or "no" indication, thus exemplifying the justification of the logistic regression analysis as opposed to a linear regression model that allows for the dependent variable to put forth two or more definite responses.

#### **4.2. Research Instruments**

Specific research instruments have been utilized to gather information essential to the intended study. Collection of data has been confined to the results of the survey presented. The survey, constructed through the google forms application, design allowed for educators of Educational District A to put forth their personal perceptions of financial literacy, their willingness to teach financial courses throughout their associated district, their projected score of the assessment presented, and allowed for the assessment of basic financial knowledge through the answering of ten questions, according to the financial literacy pillars of the California State Board of Education. To measure the strength of the correlation between the basic financial knowledge of educators and their willingness to teach

financial courses, the logistical regression model from the *XLMiner Analysis Tool Park* extension of the Excel application will be utilized, providing a direct correlation between the two variables. Analyzing the  $x$ , independent variable (financial knowledge), and the  $y$ , dependent variable (educator willingness), a  $p$  value will be calculated by the regression model, determining the strength of the relationship. Conventionally, when the  $p$  value is less than or equal to a critical value of 0.05 ( $|p| \leq 0.05$ ), the association between the two variables is considered statistically significant. When the  $p$  value is greater than or equal to a critical value of 0.05 ( $|p| \geq 0.05$ ), the association between the two presented variables is considered to be statistically insignificant, or insufficient evidence has been provided to support the association. Additionally, a chi-square value will be provided to explain how the logistic regression model fits with the variables of the inquiry, and an odds ratio value will be provided to specify the strength and direction of the association between the two variables.

To quantify the results of the survey, the following formula will be used for particular model:

$$P = \frac{1}{1 + e^{-(\beta_0 + \beta_1 x_1)}}$$

According to the logistics of the  $\beta_1$  *XLMiner Analysis Tool Park* application, the  $\beta_0$  variable represents the intercept of the constant term while the  $\beta_1 x_1$  variable represents the impact of the independent variable upon the dependent variable. In the context of the intended survey, data values have been provided by the *XLMiner* software to represent the variables of the equation, based on the inputted data points of the survey conducted:  $\beta_0 = -4.0073$  and  $\beta_1 = 0.5335$ . A 95% confidence level (C) is applied to assist the uncertainty of variables provided by participants. To enumerate the willingness of educators, the numerical values of 0 and 1 have been assigned to for *not willing* and *willing* to teach financial courses and or electives.

### 4.3. Ethicality

The ethicality of research is highly regarded throughout the intended study. In order to ensure the privatization of all sensitive and personal information, the responses from the survey will remain anonymous. This will allow educators to provide their information without the concern of publicizing individual data. In addition to this, a brief overview of the study and consent form is provided to the survey applicant, allowing for the individuals who intend on participating in the study to opt out of the case study at any time. In order to reach the specific cohort of individuals, emails will be sent out to the teacher population of Educational District A.

## 5. Data Analysis

The data collected from the logistic regression analysis described a strong, significant association between the basic financial knowledge of educators and their

willingness to instruct financial courses and electives throughout Educational District A. To quantify the results of the logistical regression analysis model, the following equation will be utilized: (Tables 1-3)

$$P = \frac{1}{1 + e^{-(4.0073 + 0.5335x_i)}}$$

**Table 1.** Model fit.

Chi-Square = 58.0456	df= 1	p-value < 0.001
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**Table 2.** Logistics.

Variable	Coefficient	Standard Error	p-value	Odds Ratio	95% Confidence Interval
Test score	0.5335	0.0840	p < 0.001	1.7049	(1.4462, 2.0100)
Constant	-4.0073	0.6041	p < 0.001		

**Table 3.** Descriptive statistical analysis of quantitative survey data and Cronbac's alpha.

	Mean	Standard Deviation	Cronbach Alpha Value	N
<sup>1</sup> Importance of Student Financial Knowledge	4.1911764	1.258555		204
<sup>1</sup> Importance of institution of financial courses	4.0196078	1.224085	0.851	204
<sup>1</sup> Importance of Educator Financial Knowledge	3.12254902	1.599963	0.923	204
<sup>2</sup> Willingness to Teach Financial Topics	0.35593220	0.480153		177
<sup>3</sup> Knowledge of Credit Information	0.52450980	0.500012	0.832	204
<sup>3</sup> Knowledge of Interest Rates	0.635620915	0.481649	0.804	204
<sup>3</sup> Knowledge Mortgage Rates	0.661764705	0.474272		204
<sup>3</sup> Knowledge of Net Worth	0.666666667	0.472564		240
<sup>3</sup> Knowledge of Bankruptcy	0.5049019608	0.5012059		204
<sup>3</sup> Knowledge of Retirement Plans	0.7647058824	0.4252260		204
<sup>3</sup> Knowledge of Financial Stocks	0.568627451	0.4964862		204

<sup>1</sup>Indicates a mean value that resides between 0 and 5 and accounts for the perceptions of educators regarding financial literacy teachings. Value of 5 indicates a *strongly agree* perspective, while a value of 1 indicates a *strongly disagree* perspective; value of 3 indicates *neutrality*. <sup>2</sup>Indicates a mean value that resides between 0 and 1 and accounts for the willingness of educators to teach financial topics throughout their associated high school. Value of 0 indicates a response of *yes*; value of 1 indicates a response of *no*. <sup>3</sup>Indicates a mean value that resides between 0 and 1 and accounts for the score provided on the given assessment regarding the category of question given. Value of 1 indicates a correct answer choice; value of 0 indicates an incorrect answer choice.

**Table 3** *Descriptive Statistical Analysis of Quantitative Survey Data and Cronbach Alpha Test* indicated the descriptive statistical analysis of quantifiable information obtained from the survey conduction. All responses are provided by the teacher population of Educational District A. Additionally, this table is able to validate the questionnaire used during data collection. According to the test conducted, the Cronbach Alpha values produced exceed a value of 0.70, thus, validating the questionnaire used throughout. Some measures do not contain a reported Cronbach Alpha value due to the use of a singular question associated with the measure (**Table 4**).

**Table 4.** Probabilities predicted by the model.

Test Score (Out of 10)	Willingness	<i>p</i>	95% Confidence Interval
5	0	0.2076	(0.1402, 0.2962)
9	0	0.6888	(0.5710, 0.7863)
7	1	0.4322	(0.3458, 0.5230)
7	1	0.4322	(0.3458, 0.5230)
7	0	0.4322	(0.3458, 0.5230)
9	1	0.6888	(0.5710, 0.7863)
10	0	0.7905	(0.6668, 0.8768)
8	1	0.5648	(0.4626, 0.6618)
9	1	0.6888	(0.5710, 0.7863)
9	1	0.6888	(0.5710, 0.7863)
8	1	0.5648	(0.4626, 0.6618)
6	1	0.3087	(0.2322, 0.3974)
10	1	0.7905	(0.6668, 0.8768)
10	0	0.7905	(0.6668, 0.8768)
6	0	0.3087	(0.2322, 0.3974)
6	1	0.3087	(0.2322, 0.3974)
10	0	0.7905	(0.6668, 0.8768)
8	1	0.5648	(0.4626, 0.6618)
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6	1	0.3087	(0.2322, 0.3974)
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10	0	0.7905	(0.6668, 0.8768)
8	1	0.5648	(0.4626, 0.6618)
4	0	0.1332	(0.0782, 0.2175)
10	0	0.7905	(0.6668, 0.8768)
7	1	0.4322	(0.3458, 0.5230)
4	1	0.1332	0.0782, 0.2175)
8	0	0.5648	(0.4626, 0.6618)
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8	1	0.5648	(0.4626, 0.6618)
9	1	0.6888	(0.5710, 0.7863)
3	0	0.0827	(0.0416, 0.1575)
6	0	0.3087	(0.2322, 0.3974)
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8	0	0.5648	(0.4626, 0.6618)
9	0	0.6888	(0.5710, 0.7863)
3	0	0.0827	(0.0416, 0.1575)
3	0	0.0827	(0.0416, 0.1575)
0	0	0.0179	(0.0055, 0.0561)
2	0	0.0502	(0.0215, 0.1127)
4	0	0.1332	(0.0782, 0.2175)
3	0	0.0827	(0.0416, 0.1575)

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2	0	0.0502	(0.0215, 0.1127)
2	0	0.0502	(0.0215, 0.1127)
2	0	0.0502	(0.0215, 0.1127)
2	0	0.0502	(0.0215, 0.1127)
3	0	0.0827	(0.0416, 0.1575)
2	0	0.0502	(0.0215, 0.1127)
3	0	0.0827	(0.0416, 0.1575)
2	0	0.0502	(0.0215, 0.1127)
3	0	0.0827	(0.0416, 0.1575)
6	0	0.3087	(0.2322, 0.3974)
4	0	0.1332	(0.0782, 0.2175)
3	0	0.0827	(0.0416, 0.1575)
10	1	0.7905	(0.6668, 0.8768)
10	0	0.7905	(0.6668, 0.8768)
8	0	0.5648	(0.4626, 0.6618)
10	1	0.7905	(0.6668, 0.8768)
9	1	0.6888	(0.5710, 0.7863)
3	0	0.0827	(0.0416, 0.1575)
2	0	0.0502	(0.0215, 0.1127)
2	0	0.0502	(0.0215, 0.1127)
4	0	0.1332	(0.0782, 0.2175)
4	0	0.1332	(0.0782, 0.2175)
2	0	0.0502	(0.0215, 0.1127)
2	0	0.0502	(0.0215, 0.1127)
3	0	0.0827	(0.0416, 0.1575)
4	0	0.1332	(0.0782, 0.2175)

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## Continued

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4	0	0.1332	(0.0782, 0.2175)
2	0	0.0502	(0.0215, 0.1127)
1	0	0.0502	(0.0215, 0.1127)
3	0	0.0827	(0.0416, 0.1575)
3	0	0.0827	(0.0416, 0.1575)
2	0	0.0502	(0.0215, 0.1127)
5	0	0.2076	(0.1402, 0.2962)
3	0	0.0827	(0.0416, 0.1575)
3	0	0.0827	(0.0416, 0.1575)
5	0	0.2076	(0.1402, 0.2962)
4	0	0.1332	(0.0782, 0.2175)
3	0	0.0827	(0.0416, 0.1575)
4	0	0.1332	(0.0782, 0.2175)
3	0	0.0827	(0.0416, 0.1575)
4	0	0.1332	(0.0782, 0.2175)
3	0	0.0827	(0.0416, 0.1575)
5	0	0.2076	(0.1402, 0.2962)
4	0	0.1332	(0.0782, 0.2175)
3	0	0.0827	(0.0416, 0.1575)
2	0	0.0502	(0.0215, 0.1127)
3	0	0.0827	(0.0416, 0.1575)
7	0	0.4322	(0.3458, 0.5230)
7	0	0.4322	(0.3458, 0.5230)
6	0	0.3087	(0.2322, 0.3974)
3	0	0.0827	(0.0416, 0.1575)
3	0	0.0827	(0.0416, 0.1575)
4	0	0.1332	(0.0782, 0.2175)
2	0	0.0502	(0.0215, 0.1127)
2	0	0.0502	(0.0215, 0.1127)
4	0	0.1332	(0.0782, 0.2175)
4	0	0.1332	(0.0782, 0.2175)
4	0	0.1332	(0.0782, 0.2175)
4	0	0.1332	(0.0782, 0.2175)
4	0	0.1332	(0.0782, 0.2175)
3	0	0.0827	(0.0416, 0.1575)

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## Continued

4	0	0.1332	(0.0782, 0.2175)
5	0	0.2076	(0.1402, 0.2962)
1	0	0.0301	(0.0110, 0.0798)
6	0	0.3087	(0.2322, 0.3974)
6	0	0.3087	(0.2322, 0.3974)
5	0	0.2076	(0.1402, 0.2962)
6	0	0.3087	(0.2322, 0.3974)
5	0	0.2076	(0.1402, 0.2962)
6	0	0.3087	(0.2322, 0.3974)
6	0	0.3087	(0.2322, 0.3974)
9	0	0.6888	(0.5710, 0.7863)
7	1	0.4322	(0.3458, 0.5230)
9	1	0.6888	(0.5710, 0.7863)

Data from the logistic regression analysis provide evidence explaining the direct, significant relationship between the basic financial knowledge of educators and their willingness to teach these topics. When viewing the  $p$ -value, the charts indicate a decimal less than 0.001, exemplifying an exceedingly strong correlation between the two variables. The results of the Chi-Square test, numerical value of 58.0456, reject the null hypothesis and conclude that distribution of the data points is statistically improbable to occur at random, indicating the association between the variables to have a strong influence upon one another. When viewing the individual data of the logistic regression analysis, **Table 4** *Probabilities Predicted by the Model*, the data formulated from individual participants' responses measure the test score and willingness of each educator and assist the quantification of the data presented in **Table 2** *Logistics*. When viewing the contents of the survey, specific data points were able to assist the search towards the association between the variables. Contents of the survey included the perceptions of educators regarding financial teachings, their willingness to portray financial topics throughout their district, their personal evaluation of their financial capabilities, and an assessment of their basic financial knowledge. The given survey provided the responses of 204 educators within Educational District A. When evaluating the first section of the conducted survey, data indicates that nearly 78.4% of educators agree that basic financial topics should be understood by most students, while 76.4% of respondents believed that financial courses should be taught periodically throughout the year. In addition to this, 54.9% of educators believe that teacher populations should be financially literate, while 53.9% of respondents argue that teachers should be able to effectively inform their students on financial correlated topics. Although 75% of respondents, 50% strongly, believe that topics relating to basic finances and economic behav-

iors should be instituted into curriculums throughout the district, only 30.9% of respondents are willing to teach financial courses or electives throughout their district. When evaluating the assessment portion of the survey provided, specific data points can be highlighted to attain to the question and hypothesis presented. From the responses provided by the educators, the mean score of the assessment of basic financial information, according to the California State Board of Education Sacramento, was 6.12 out of 10. Although the responses ranged from scores of zero to ten, the majority of educators were able to score above the 50 percent, indicating that most teachers of Educational District A are able to comprehend and interpret basic financial knowledge. However, after viewing the individual responses, the results of the logistic regression can be confirmed. Educators who scored poorly on the assessment generally indicated that they would not be willing to instruct financial courses throughout their respective high school, while educators who scored in the eight to ten range formed a pattern with their willingness to teach financial courses or electives. When viewing the individual questions of the assessment provided, questions regarding credit scores, bankruptcy, investing, and bonds typically yielded lower results. Specifically, only 63.7% of respondents were able to correctly identify the contributing factors that comprise a credit score, in addition to only 56.8% of educators knowing the basis of stock ownership. Similarly, roughly 41.1% of educators knew how often a credit report could be checked, while only 42% of educators knew the resulting event of a rising interest rate. A lack of proficiency in these specific topics has been identified by the survey conduction.

## 6. Conclusion

Multiple conclusions can be drawn from the financial logistic regression analysis case study conducted. Firstly, there is a direct association between the two variables presented in the study. The results of the conducted regression analysis indicated a strong and significant relationship between the economic capabilities of educators and their desires to portray fiscal knowledge to their respective students. The vast majority of the representative teacher population of Educational District A believes that financial teachings should be instituted into the current curriculum of their associated high school and or district. Similarly, most educators indicated that instructors should be financially literate and able to effectively portray economic data to their associated students. However, the mass of educators indicates that they would not be willing to instruct these financial courses. The unwillingness of educators, according to the logistic regression model, can be directly attributed to the lack of their basic financial knowledge, thus, affirming the position of the research hypothesis and argument established. In addition to this, according to the results of the survey conducted, the majority of educators within Educational District A are unwilling and or unable to teach economic related classes, therefore, exemplifying a supplementary, possible factor contributing to the decay in financial literacy rates. The independent variable

of the study, the basic financial knowledge of educators has the ability to directly alter an instructor's inclination to portray economic data to associated students. Addressing the remaining research hypothesis, the willingness of educators to teach financial topics is proportional to their score on the given assessment. Educators who possessed the capabilities to achieve a raw score greater than seven out of ten on the given assessment provided responses indicating their willingness to teach financial courses throughout their district. Conversely, educators who provided a score below the median value, 6.12, generally responded with the answer of unwillingness to teach economic related topics. This concludes that the willingness of educators is significantly dependent upon their basic financial knowledge, thus indicating that their financial knowledge is an influencing factor in their abilities to portray economic information to students.

## 7. Emerging Limitations and Implications

The conducted research methodology contains both avoidable and unavoidable limitations that have moderately influenced the study's conclusions throughout the composition of quantifiable information. The participant sample size of the research project emerges as a limitation for the chosen methodology: logistic regression analysis. Acquired through survey conduction, the cohort value was able to reach a participant size of 204 individuals. Although this sample size represented a significant portion of full time high school educators throughout the district, the acquired respondents did not reach a cohort value of 500 individuals. This can be directly attributed to the select number of qualified participants, or educators, that have authority to answer the presented survey. With a twenty-four to one student-to-teacher ratio, acquiring student participants would be feasible, however, for the intended study, this method is not applicable. According to the National Library of Medicine, for a specifically accurate logistic regression analysis a sample size of 500 participants is required. If a sample size of under 500 is acquired, the odds ratio value-factor indicating strength of relationship, produced by the quantifiable information of the survey may be overestimated (Bujang et al., 2018). As a result of the limited access of teachers and teacher responses of Educational District A, this limitation cannot be avoided unless parameters of the survey conduction are broadened to encompass school districts on a greater scale. This, in turn, will allow for greater accuracy when assessing the strength of relationship between the two variables presented. However, the p-value produced by the logistic regression indicated a value less than 0.001, which means that there is a strong relationship between the two variables presented. Additionally a sample size of 204 educators represents a reasonable percentage of the instructor population of Educational District A, thus, validating the selected sample size. The surveying methods utilized provide limitations for the intended research project and goal. When assessing the willingness of educators to teach financial topics throughout their respective high schools, a "prefer not to say" answer choice was given to ensure that all teachers had the

ability to opt-out of given questions at any time. However, when educators chose to opt-out of this question of the survey, their individual response is unquantifiable in terms of the logistic regression analysis. The programming software used, the *XLMiner Analysis Tool Park application*, to determine the strength of relationship between the two variables is unable to account for the “prefer not to say” answer choice, thus, allowing for the reduction of cohort sample size, contributing to a greater overestimation of the strength of relationship between the variables.

The findings of the conducted financial regression case study allow for the emergence of implications that may have impacts throughout the financial sub-discipline, teacher populations, and various school districts throughout the state of California. Firstly, and most notable, there is a significant relationship between the willingness of educators to teach financial topics and their basic financial knowledge, implying that the learning of basic financial knowledge is essential to increasing teacher participation in financial courses. This in turn may call for academic institutions and districts to place an emphasis on the financial training of educators, attempting to alleviate the decay of literacy rates. Improving the basic financial knowledge is vital to increasing the total amount of on campus faculty participation in new and existing financial courses. Policymakers of the district or state may consider the implementation of mandated courses relating to financial information, attempting to increase the percentage of educators willing to teach these courses to their associated students. Indicated by the survey conduction and the logistic regression model, the vast majority of educators who scored poorly, also opted to not teach financial courses. With the mandation of financial literacy courses in 2026 throughout the schools of California, this case study may influence superintendents and district officials to survey their teacher population to seek their basic levels of financial knowledge, allowing for an examination of which individuals would be suitable to instruct these courses. To combat the growing complication of educator unwillingness to teach financial related courses or electives, district officials may begin to allocate resources into programs to stimulate financial knowledge throughout educators of their respective districts. These programs can be observed through curriculum materials, training workshops, or viewable lectures and or seminars, thus, prompting the basic financial knowledge of educators.

### Conflicts of Interest

The author declares no conflicts of interest regarding the publication of this paper.

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