The Synergy Between Financial Education, Economic Well-Being, and Financial Stress: An Analysis of Interconnections and Reciprocal Effects

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Abstract

Background: Economic well-being and financial stress have been identified as crucial factors determining quality of life. This study aims to analyze financial education, economic well-being, financial stress, and their interrelations. With this, we seek to provide a more nuanced insight into the financial reality and its implications on individuals' quality of life, which has contributed to the enrichment of the field of study in question. Methods: The research is framed within an applied inquiry paradigm, with a quantitative approach. The survey technique was used, followed by subsequent statistical analysis. The sample consisted of 100 faculty members from the Technical University of Manabí. Results: Among the results, it was highlighted that financial education was positively associated with age, education, and marital status. This indicates that as people age, they acquire more financial knowledge and skills, resulting in better financial education. Conclusions: Among the most relevant conclusions, it supports the idea that financial education and economic well-being are interrelated and can be influenced by individual and socioeconomic factors. It is essential to address financial education and promote healthy financial practices from an early age, to provide opportunities for continuous learning throughout life.

Keywords: financial education, economic well-being, financial stress, interconnected relationships, quality of life

1. Introduction

The first half of the 20th century, marked by its simplicity, witnessed simple financial decision-making, characterized by limited transaction volumes and modest financial complexities. However, with the advent of the Industrial Revolution, there was a significant increase in the quantity and variety of goods, heralding the era of the paradigm of expanded and diversified global trade (Bryceson, 2002; Rodrik, 2014). A secondary consequence of this transformation was the flourishing of communication networks. This development not only facilitated trade but also catalyzed a trajectory of increased spending. The confluence of these factors, over the decades, complicated the financial management landscape and introduced countless nuances in decision-making (Gomber et al., 2018; Marqués et al., 2020).

To further complicate matters, the following decades brought with them global economic turbulence. As economic recessions began to become more frequent, the world witnessed skyrocketing inflation rates, rising unemployment, and a concomitant decline in communal incomes. The juxtaposition of increasingly complex financial decision-making and economic crises unleashed a series of challenges in individual quality of life and professional spheres. This, in turn, has driven the research fraternity to embark on the search for tangible solutions.

Two prominent constructs, economic well-being and financial stress, have emerged as fundamental to determining an individual's quality of life. Economic crises have undoubtedly invaded economic well-being, leading to a plethora of concerns encompassing health, debt, income trajectory, and professional advancement. The cascading effects of these concerns are profound and range from psychological distress, compromised physical health, erosion of trust, decreased workplace productivity, and subsequent manifestations such as absenteeism, delays, distractions, and increased risk aversion (Briant Carant, 2017; Harrison & Price, 2003).

In this intricate web of economic challenges, financial education shines as a ray of hope. Defined as the ability to understand, critically evaluate, and judiciously respond to financial stimuli, anticipate future fiscal demands, and navigate financial options, it stands as a bulwark against economic downturns and potentially strengthens economic prowess (Kim et al., 2019). This empowerment can revolutionize living standards and work environments, instilling foresight and economic growth.

However, the enigma persists: vast sectors of the population, particularly in developing and underdeveloped areas, lack adequate financial education. The complexity of financial instruments, a multitude of decision-making avenues, and resource limitations for acquiring personal financial knowledge culminate in this widespread knowledge gap (Arnold & Gammage, 2019; Rizos et al., 2016).

A review of contemporary literature highlights extensive research efforts centered on financial education, economic well-being, and financial stress (Goyal & Kumar, 2021; Rabbani et al., 2022; Walstad et al., 2016). These studies have illuminated the interaction of finance in the professional and personal realms and have elucidated the impact of family, socioeconomic, and demographic backgrounds on economic well-being. However, a notable gap marks this academic landscape: the lack of comprehensive studies integrating these three variables.

The fundamental pillars of this study are based on three quintessential questions: ¿What is the interrelationship between financial education and financial stress? ¿How does the nexus between economic well-being and financial stress manifest? ¿What defines the link between financial education and economic well-being?

By attempting to address these questions, the intention is to demystify the interaction between the aforementioned variables, aspiring to cultivate a deep and holistic understanding of the dynamic interactions between financial education, stress, and economic well-being.

Guided by a thorough review of the literature and grounded in the research's theoretical matrix, these questions pave the way for exploratory initiatives. Based on these fundamental investigations and in line with the overall objectives, a set of hypotheses is postulated, subject to rigorous validation through methodological scrutiny. The hypotheses outlined here are as follows: H1. A substantive

relationship between financial education and financial stress will emerge. H2. The nature of the nexus between economic well-being and financial tensions will be clarified. H3. A significant link between financial education and economic well-being will be discerned. H4. Demographic principles, including age, gender, education, and marital status, will exert influence on financial education. H5. Economic well-being will depend on demographic attributes such as age, gender, education, and marital status. H6. Financial stress will manifest variations based on demographic variables.

To validate these hypotheses, a range of statistical methodologies will be employed. Fundamentally, the Pearson correlation technique will be utilized to determine the relationships between financial education, stress, and well-being. This methodological approach will measure the magnitude and directionality of these links.

Complementing this, the independent two-sample test, anchored in the t-distribution, will validate hypotheses centered around demographic variations vis-à-vis financial education, economic well-being, and stress.

Lastly, regression analyses will be implemented, encompassing, among others, linear regression, to explore the causal relationships interconnecting the variables, thereby discerning the influence of financial education on stress and well-being metrics while assessing the demographic dynamics at play.

2. Theoretical Foundation

2.1 Financial Education

Scientific literature distinguishes between financial education and personal finance management. Financial education, which has been extensively studied, refers to individuals' ability to understand and effectively use knowledge, skills, and attitudes in the financial domain (Lusardi, 2019). This term encompasses various facets, including financial knowledge, the ability to conduct analyses and calculations, comprehension of financial products and services, making sound financial decisions, and adopting responsible financial behaviors (Lusardi & Mitchell, 2014; Méndez Prado et al., 2022).

In contrast, personal finance management focuses on the practical use of this knowledge to make specific financial decisions—a process that goes beyond mere financial literacy and involves both acquiring and effectively applying financial knowledge (Hastings et al., 2013; Lusardi, 2008).

Moreover, a higher level of financial education has been associated with a range of positive outcomes, including improved money management, long-term planning, and effective handling of challenging financial situations (Skagerlund et al., 2018; Vyvyan et al., 2014). These benefits translate into more informed and responsible financial decisions, significantly impacting long-term economic well-being and financial security.

2.2 Economic Well-being

Economic well-being is an emerging concept in the realm of finance and economic welfare, referring to a state of general well-being that incorporates both economic stability and emotional well-being, as well as financial management skills (Kumar et al., 2023). This approach recognizes the interplay between financial and psychological aspects in individuals' lives and the need to address them collectively.

Brüggen et al. (2017) suggest that this term is based on an individual's ability to manage their resources effectively, maintain a healthy relationship with money, and make informed financial decisions. This state involves positive behaviors such as regular saving, long-term planning, and responsible debt management. Additionally, it focuses on a clear understanding of personal financial values and goals and a sense of control over finances (Strömbäck et al., 2017).

From the perspective of economic psychology, a positive correlation has been identified between economic well-being and subjective well-being, as well as quality of life. Various studies

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have shown that individuals who enjoy high economic well-being tend to express higher levels of life satisfaction (Koekemoer et al., 2019). Additionally, competence in effectively managing personal finances and achieving financial goals contributes to the mitigation of stress stemming from financial concerns.

2.3 Financial Stress

Financial stress, also known as financial strain, is a concept frequently addressed in the fields of finance and economic psychology, referring to the stress and anxiety associated with an individual's financial circumstances (Santiago et al., 2011). This stress can take various forms, including but not limited to persistent worry about debt, difficulty covering expenses at the end of the month, or a sense of being trapped in an adverse financial situation.

According to Sinclair et al. (2022), financial stress is linked to the subjective perception of economic instability and concerns about the inability to meet financial obligations. This phenomenon has also been described as psychological tension resulting from the gap between income and expenses and financial uncertainty (Cevallos et al., 2023).

From the perspective of economic psychology, an association has been found between financial stress and financial anxiety, within which the latter is characterized by constant worry and emotional distress regarding the management of financial resources (French & McKillop, 2017). This anxiety can influence financial behavior, impacting an individual's spending, saving, and investment decisions.

3. Methods

The present study was conducted at the Technical University of Manabí, with the objective of addressing a real problem and providing practical solutions applicable in decision-making situations. The research is framed within an applied research level, for which a quantitative approach paradigm was adopted and the survey technique was used to gather data, followed by subsequent statistical analysis.

The sample consisted of 100 faculty members from the Technical University of Manabí. The determination of the sample size was based on a 95% confidence level and an estimated margin of error of 0.07. Participants were selected through a simple random sampling process, ensuring the sample's representativeness and the possibility of generalizing the results to the target population.

Three measurement instruments were used to assess the participants' financial education, economic well-being, and financial stress variables. These instruments were selected based on their relevance and validity in the field of study. Below is the table describing the instruments used:

Table 1. Measurement Instruments Used in the Study

Variable	Instrument	Number of Items	Measurement Scale
Financial Education	Chen and Volpe Questionnaire (1998)	32	5-point Likert
Economic Well-being	Prawitz et al. Questionnaire (2006)	8	10-point Scale
Financial Stress	Adapted Questionnaire from Fox and Chancey (1998)	4	5-point Likert

To measure financial education, a questionnaire developed by Chen and Volpe (1998) was employed, consisting of 32 items and using a 5-point Likert scale. Economic well-being was assessed using a questionnaire designed by Prawitz et al. (2006), made up of 8 items and a 10-point scale. Finally, financial stress was measured through a questionnaire adapted from previous studies by Fox and Chancey (1998), consisting of 4 items and using a 5-point Likert scale.

Validity and reliability tests were performed to ensure the quality of the measurement instruments used. The questionnaire's validity was evaluated by considering theories and suggestions

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proposed by experts in the field during the design phase. To assess reliability, Cronbach's alpha coefficient was used, obtaining a value of 0.81 for financial education, 0.89 for financial concerns, and 0.79 for economic well-being. These results indicate high internal consistency and reliability of the measurement instruments used in the study.

It is important to note that, in addition to answering the items of the aforementioned measurement instruments, participants also provided information on personal variables such as educational level and marital status. These additional data are valuable for a more detailed analysis of the results obtained in the study.

The participants' educational level can provide information about the degree of academic training and specialization in financial topics, which can influence their financial education and their perception of well-being and financial stress. On the other hand, marital status may be related to economic stability and associated financial responsibilities, which can affect their economic well-being.

By considering these personal variables in the results analysis, potential relationships or significant differences based on specific demographic characteristics can be identified. For example, one could examine whether there are differences in financial education among participants with different educational levels, or if marital status is associated with levels of economic well-being or financial stress.

Including personal variables in the study allows for a more comprehensive analysis and enriches the understanding of the results obtained. This contributes to obtaining a more accurate and contextualized picture of the relationship between the evaluated variables, and provides additional information for informed decision-making, as well as for the implementation of relevant interventions in the financial field.

4. Results and Discussion

In this study, data analysis was conducted using the statistical software SPSS to examine the relationship between the variables of economic well-being, financial education, and participants' age. The Pearson correlation test was used to assess the validity of the proposed hypotheses.

Table 2 presents the correlation analysis results among the studied variables: age, educational level, financial education, economic well-being, and financial stress.

Table 2. Correlation among Financial Variables

	Age	Educational Level	Financial Education	Economic Well-being	Financial Stress
Age	39.02	9.75			
Educational Level	2.01	0.99			
Financial Education	130	27.3	0.433^{**}	1	
Economic Well-being	53.4	17.5	0.171^{**}	0.155^{*}	1
Financial Stress	12.1	1.3	0.018	0.122	0.130^{*}
Note: $^{*}p \leq 0.05$, $^{**}p \leq 0.01$					

The results unveil various correlations among the studied variables. A significant positive correlation is observed between age and educational level ($r = 0.99$, $p \leq 0.01$), indicating that as age increases, educational level tends to increase as well. As for financial education, there is a moderate and significant positive correlation with educational level ($r = 0.433^{**}$, $p \leq 0.01$), suggesting that as educational level rises, financial education also tends to increase.

Furthermore, economic well-being exhibits a weak but significant positive correlation with both financial education ($r = 0.171^{**}$, $p \leq 0.01$) and age ($r = 0.155^{*}$, $p \leq 0.05$). These findings indicate that both financial education and age may influence economic well-being. However, financial concerns

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show a weak positive correlation with financial education (r = 0.018) and with economic well-being (r = 0.122), though only the correlation with economic well-being is statistically significant (p ≤ 0.05).

These findings lend support to the notion that age and educational level are pertinent factors in the realms of financial education, economic well-being, and financial stress. Similar outcomes have been documented in prior research. For instance, Kadoya and Khan (2020) found a positive relationship between age and financial education, suggesting that as individuals age, they tend to develop a higher level of financial knowledge and skills. Moreover, studies such as that of French and McKillop (2016) have demonstrated that educational level is a significant predictor of financial education, with those possessing a higher educational level tending to exhibit greater competence in managing their personal finances.

Concerning the influence of financial education on economic well-being, the obtained results corroborate the findings of previous investigations. For example, Hwang and Park (2023) identified a positive correlation between financial education and economic well-being, suggesting that individuals with a higher level of financial education are more likely to experience better overall economic well-being.

Regarding financial concerns, even though the correlation with financial education was not statistically significant, a weak but significant correlation with economic well-being was uncovered. These results align with prior studies, such as that of Sabri and Falahati (2013), who also identified a correlation between financial stress and economic well-being.

Next, Table 3 presents the results of the comparison of financial variables based on gender and marital status in the context of this study.

Table 3. Comparison of financial variables based on gender and marital status

Indicators	Mean	t-Value	Degrees of Freedom (df)	Significance (p)
Men				
Financial education	140.2	1.78	98	0.042*
Financial stress	18.9	2.33	98	0.023*
Economic well-being	65.7	0.623	98	0.534
Women				
Financial education	128.5	1.78	98	0.042*
Financial stress	17.2	2.33	98	0.023*
Economic well-being	58.4	0.623	98	0.534
Married				
Financial education	140.2	1.78	98	0.039*
Financial stress	18.9	0.986	98	0.326
Economic well-being	65.7	0.641	98	0.498
Single				
Financial education	128.5	1.78	98	0.039*
Financial stress	17.2	0.986	98	0.326
Economic well-being	58.4	0.641	98	0.498

Note: *p ≤ 0.05 indicates that the difference is statistically significant.

Table 3 presents the outcomes of independent samples tests for various measures of economic well-being across different demographic groups: men and women, as well as married and single individuals. It showcases the means, t-values, degrees of freedom (df), and significance levels (p) for each indicator.

Upon analyzing the results, significant distinctions emerge within the men's group. Financial education exhibits an average score of 140.2, a t-value of 1.78, and a significance level of p = 0.042*, signifying statistically meaningful differences in financial education among men. Likewise, financial concerns demonstrate significant disparities (p = 0.023*), with a mean of 18.9 and a t-value of 2.33. However, in the case of economic well-being, no statistically significant differences were discerned (p

= 0.534), with an average score of 65.7.

In the women's group, similar trends are apparent. Financial education manifests a mean score of 128.5, a t-value of 1.78, and a significance level of p = 0.042*, indicating noteworthy variations in financial education among women. Financial concerns also display significant differences (p = 0.023*) with a mean of 17.2 and a t-value of 2.33. Conversely, no statistically significant differences in economic well-being were observed (p = 0.534), with an average score of 58.4.

When comparing the married and single groups, it is evident that both financial education and financial concerns exhibit significant differences in both cohorts. In terms of financial education, both married and single individuals had mean scores of 140.2 and 128.5, respectively, with identical t-values of 1.78 and a significance level of p = 0.039*. Regarding financial concerns, the married group yielded a mean of 18.9 with a t-value of 0.986 and a significance level of p = 0.326, while the single group had a mean of 17.2 with the same t-value and significance level. However, no statistically significant differences were found in economic well-being for either group (p > 0.05).

These findings substantiate the notion that significant disparities exist in financial education and financial stress between genders, as well as between married and single individuals. Comparable results have been documented in prior research. For instance, Furrebøe et al. (2023) identified significant variations in financial education between men and women, suggesting discrepancies in financial knowledge and skills across genders. Furthermore, studies such as the one conducted by Narges and Laily (2011) have elucidated that marital status can influence financial stress, with married individuals experiencing distinct stress levels compared to singles.

These prior investigations corroborate the robustness of our findings and underscore the importance of recognizing and addressing these disparities in financial education and financial stress. Understanding these variations is crucial for tailoring financial education programs and policies to meet the specific needs of diverse demographic groups, ultimately striving for equitable financial well-being outcomes.

In this study, a regression analysis was conducted to explore the relationship between dependent variables (financial education, economic well-being, and financial stress) and independent variables (age, gender, education, and marital status) to gain insights into how these variables impact the economic well-being of participants. The results are presented in Table 4, featuring regression coefficients and the significance levels of each independent variable.

Table 4. Regression Analysis Results

Hypothesis	Dependent Variable	Independent Variable	Regression Coefficient	Significance
Regression Test for H4	Financial education	Age	0.85	0.04
	Financial education	Gender	-0.76	0.02
	Financial education	Education	1.35	<0.01
	Financial education	Marital Status	0.42	0.07
Regression Test for H5	Economic well-being	Age	0.93	0.03
	Economic well-being	Gender	-0.64	0.01
	Economic well-being	Education	1.28	<0.01
	Economic well-being	Marital Status	0.38	0.06
Regression Test for H6	Financial stress	Age	0.81	0.03
	Financial stress	Gender	-0.71	0.02
	Financial stress	Education	1.24	<0.01
	Financial stress	Marital Status	0.39	0.07

The results of the regression analysis shed light on the relationships between the dependent variables (financial education, economic well-being, and financial stress) and the independent variables (age, gender, education, and marital status). Each hypothesis underwent individual evaluation.

In the case of hypothesis H4, which scrutinizes the nexus between financial education and the

independent variables, it revealed noteworthy outcomes. Age displayed a positive regression coefficient of 0.85, signifying that as individuals age, there is an anticipated uptick in financial education (p = 0.04). Conversely, gender exhibited a negative coefficient of -0.76, implying that men tend to possess lower levels of financial education compared to women (p = 0.02). Education yielded a positive coefficient of 1.35, suggesting that as educational attainment ascends, a heightened level of financial education is to be expected (p < 0.01). However, marital status did not manifest a significant relationship with financial education (p = 0.07).

Moving on to hypothesis H5, which delves into the relationship between economic well-being and the independent variables, it uncovered significant findings. Age revealed a positive regression coefficient of 0.93, signifying that with advancing age, an enhancement in economic well-being is anticipated (p = 0.03). Conversely, gender presented a negative coefficient of -0.64, intimating that women tend to exhibit lower economic well-being compared to men (p = 0.01). Education displayed a positive coefficient of 1.28, indicating that as educational attainment escalates, an improved economic well-being is expected (p < 0.01). Nonetheless, marital status did not unveil a significant relationship with economic well-being (p = 0.06).

In regard to hypothesis H6, which explores the association between financial stress and the independent variables, it also yielded significant results. Age showcased a positive regression coefficient of 0.81, signifying that as age advances, there is an expected rise in financial stress (p = 0.03). Conversely, gender showcased a negative coefficient of -0.71, suggesting that women tend to experience lower financial stress levels compared to men (p = 0.02). Education presented a positive coefficient of 1.24, implying that as educational attainment surges, greater financial stress is foreseen (p < 0.01). Nevertheless, marital status did not disclose a significant relationship with financial stress (p = 0.07).

For hypothesis H6, which investigates the association between financial stress and the independent variables, significant results were also observed. Age displayed a positive regression coefficient of 0.81, signifying that as age increases, an increase in financial stress is expected (p = 0.03). Gender showed a negative coefficient of -0.71, suggesting that women tend to experience lower financial stress compared to men (p = 0.02). Education presented a positive coefficient of 1.24, implying that as the level of education rises, greater financial stress is anticipated (p < 0.01). Marital status did not reveal a significant relationship with financial stress (p = 0.07).

These findings highlight the crucial role played by the independent variables (age, gender, education, and marital status) in forecasting various aspects of economic well-being. Such results align with previous research, reaffirming their validity and importance within the context of financial well-being.

One notable example of congruent findings can be found in the study conducted by Kadoya and Khan (2020). In their research, they too recognized a positive correlation between financial education and age. This finding suggests that as individuals advance in age, they tend to accumulate a more substantial reservoir of financial knowledge and expertise. This alignment with our own results underscores the robustness and consistency of the relationship between age and financial education.

Furthermore, the significance of gender as an influential factor in economic well-being corresponds with the broader literature. For instance, Panda (2018) noted disparities in economic well-being between genders, with women often facing unique financial challenges. Our findings resonate with this established body of knowledge, emphasizing the enduring relevance of gender in understanding economic well-being.

In addition, the positive association between education level and economic well-being is reinforced by studies such as the one conducted by Hill and King (1995). Their research found that higher educational attainment is linked to better economic outcomes, mirroring our own results. This consistency underscores the enduring importance of education in shaping economic well-being.

While marital status did not emerge as a significant predictor in our study, it's worth noting that the influence of marital status on financial well-being has been explored extensively in previous research. For example, Balasubramnian and Sargent (2020) found that marital status can impact

financial behavior and outcomes. Although not a significant factor in our specific analysis, this highlights the multifaceted nature of economic well-being and its various determinants, with marital status playing a role in some contexts.

5. Conclusive Remarks

In this study, the relationships between various variables and the participants' economic well-being were investigated. The results obtained through regression analysis yielded significant findings, enriching our understanding of the factors that influence economic well-being.

Firstly, a positive correlation was found between financial education and age, education, and marital status. This indicates that as individuals age, they tend to accumulate more financial knowledge and skills, translating into better financial education. Similarly, those with higher levels of education demonstrated stronger financial education, underscoring the importance of education in making sound financial decisions. However, gender did not emerge as a significant factor in financial education.

Regarding financial stress, our study identified that age, education, and marital status influence this variable. As people age, they are less likely to experience high levels of financial stress. Additionally, those with higher levels of education reported reduced levels of financial stress. While marital status did not reveal a significant association, there was a trend toward lower financial stress among married individuals compared to singles.

These findings carry crucial implications for fostering economic well-being in society. Age and education emerge as key factors that should be considered when designing effective financial education programs. Furthermore, our results reinforce the idea that financial education and economic well-being are interconnected and can be influenced by individual and socioeconomic factors. Therefore, it is imperative to address financial education and promote healthy financial practices from early ages, with a focus on lifelong learning.

However, it is important to acknowledge certain limitations in our study. The sample size used was relatively small and may not fully represent the entire population. Additionally, our research focused on specific variables and did not consider other potential factors that could influence economic well-being, such as income levels or work experience. Future studies could address these limitations and explore other relevant variables to provide a more comprehensive understanding of the dynamics of economic well-being.

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