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INVESTIGATING THE LEVEL OF FINANCIAL LITERACY OF UNIVERSITY STUDENTS

Investigando o nível de alfabetização financeira de estudantes universitários

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Abstract

Considering that the quality of financial decisions taken by individuals depends on their financial knowledge, abilities and attitudes, it is possible to state that the well-being of a population depends on how financially literate it is. In this context, the aim of this study was to measure the financial literacy level of university students in north of Mexico. The research method used was the survey and the data collected were analyzed using the structural equation modeling technique. As results, it was possible to confirm that financial attitudes of university students of north of Mexico influence their financial behavior. However, it was not confirmed that financial knowledge of these students impacts their financial behavior. As a high relationship between financial attitudes, financial behavior and financial knowledge of analyzed individuals was not found, it is concluded that the level of financial literacy of university students in the north of Mexico is low. It implies in the necessity to invest in financial literacy programs that could help this population to better manage their resources, what would certainly impact on its savings and consumption decisions, and retirement planning.

Keywords: Financial Literacy. Financial Education. Structural Equation Modeling. Mexican Students.

Resumo

Considerando que a qualidade das decisões financeiras tomadas pelos indivíduos depende de seus conhecimentos, habilidades e atitudes financeiras, é possível afirmar que o bem-estar de uma população depende do quão financeiramente alfabetizada ela é. Neste contexto, o objetivo deste estudo foi mensurar o grau de alfabetização financeira dos estudantes universitários do norte do México. O método de pesquisa utilizado foi a survey e os dados coletados foram analisados por meio da técnica de modelagem de equações estruturais. Como resultados, foi possível confirmar que as atitudes financeiras dos universitários do norte do México influenciam seu comportamento financeiro. Todavia, não se confirmou que o conhecimento financeiro desses estudantes impacta seu comportamento financeiro. Como não se encontrou uma forte relação entre os conhecimentos, atitudes e comportamentos financeiros dos indivíduos analisados, conclui-se que o nível de alfabetização financeira dos estudantes universitários do norte do México é baixo. Isso implica na necessidade de investir em programas de alfabetização financeira para auxiliar essa população a melhor gerir seus recursos, o que certamente irá impactar em suas decisões de poupança e consumo, assim como em seu planejamento de aposentadoria.

Palavras-chave: Alfabetização financeira. Educação financeira. Modelagem de equações Estruturais. Estudantes mexicanos.

1 INTRODUCTION

Financial literacy has been strongly important for consumers operating in an increasingly complex financial environment. It is therefore no surprise that governments, industries, communities and workplaces around the world are interested in finding effective financial literacy programs to improve their population's level of financial knowledge, attitudes and behaviors.

Due to the recognized importance of the topic, the subject has been studied around the world by governments, financial entities and academic studies. Remund (2010) shows that there is still not a consensus on what financial literacy is or how to measure the degree to which one is, or is becoming, financially literate. Although no common definition for financial literacy exists, it is important to differentiate it from financial education and financial knowledge due to the misuse of them.

The OECD (2005) defines financial education as the process by which individuals improve their understanding of financial products and concepts; and through information, instruction and/or objective advice, develop the skills and confidence to become more aware of financial risks and opportunities, to make informed choices, to know where to go for help, and to take other effective actions to improve their financial well-being and protection, while financial literacy is defined as a combination of awareness, knowledge, ability, attitude and behavior necessary to make sound financial decisions and ultimately achieve individual financial well-being (ATKINSON; MESSY, 2012).

The Financial Consumer Agency of Canada (2010) conceptualizes financial literacy as a set of knowledge, abilities and confidence to make financial decisions responsibly. It also indicates that financial literate citizens are better able to: i) make choices in the daily basis about how to use their money and maintain their financial obligations; ii) operate the ever-changing financial marketplace and buying products and services properly for their own needs; iii) plan in advance about how to use their earned money for life goals, such as buying a home or preparing for retirement; iv) cope with local, provincial and national government programs and systems that are often confusing, even for the most experienced ones; v) filter the financial information and counsels they get, whether from friends, the media or professionals; vi) and manage the resources they have in the best way, including workplace benefits, private and public pensions, tax credits, public benefits, investments, home equity, access to credit and consumer spending power.

As presented by Atkinson and Messy (2012) of the OECD, a lack of financial knowledge among a sizable proportion of the population of 14 countries surveyed shows that this is a field that still has a lot to be explored and developed around the world. In this context, the aim of this study was to measure the financial literacy level of university students in north of Mexico.

2 FINANCIAL LITERACY

The financial markets have been everyday more and more accessible to small investors, and financial literacy's importance has not been questioned anymore. Jappelli and Padula (2013) believe that there is considerable evidence in the correlation between financial literacy, wealth accumulation and portfolio. The challenge now is to standardize a reliable method to evaluate people's financial literacy level and then, identify and apply effective public policy and financial literacy training programs, as well as making people aware of its importance.

Financial literacy's concept has been interpreted differently by researchers in the past decades. Trying to avoid misconceptions and to approximate to a global unique understanding about what financial literacy is, this study follows the concept of The Organization for Economic Co-operation and Development (OECD, 2012) that sees it as a combination of awareness, skills, knowledge, attitude and behavior necessary to make financial decisions and attain individual financial well-being.

Bringing this concept to three main dimensions, it's found financial literacy as a set of knowledge, attitudes and behaviors that help people to make better financial decisions (OECD, 2012). According to Delavande, Rohwedder and Willis (2008), financial knowledge is a type of capital a person has accumulated in life, developing the skill to manage his financial resources. According to Atkinson and Messy (2012), for a person to be financial literate, it is necessary some basic knowledge of key financial concepts.

Financial attitude is defined as a factor which drives the individual's behaviors and thoughts into decisions during transactions (MOORE, 2003). Rajna et al. (2011) conceptualize financial attitude as the enforcement of financial principles, establish and conserve value, managing resources properly and making decision. According to Setyawati and Suroso (2016), financial attitudes and preferences are key elements of financial literacy, where the consumer financial decision can be influenced by his attitudes.

Xiao (2008) points out that any human behavior relevant to money management can be classified as financial behavior, and that common financial behaviors embrace credit, cash and saving behaviors. The OECD (2013) reports that financial behavior is an essential and the most important element in financial literacy. It is observed that through behaviors, such as establishing financial goals and planning on spending, bring positive results in financial literacy (SETYAWATI; SUROSO, 2016).

Adapted from Potrich, Vieira and Kirch (2015), Board 1 gives a brief summary of the Financial Literacy's explored dimensions.

Board 1 – Explored dimensions of Financial Literacy

Financial Literacy Concepts	Dimensions	Authors
The choice of numerous alternatives for establishing financial goals.	Effective choice	Criddle (2006)
The ability to use knowledge and skills acquired to better management.	Financial knowledge and skills	Hung, Parker and Yoong (2009)
The most specific human capital, measured by financial literacy issues.	Financial knowledge	Robb and Sharpe (2009)
Financial knowledge and the application of that knowledge, with self-confidence in making financial decisions.	Financial knowledge and application of knowledge	Huston (2010)
It goes beyond the primary idea of financial education, where the influence of financial knowledge on behavior is mediated by financial attitudes.	Knowledge, behavior and attitude	Norvilitis and MacLean (2010)
Making informed financial decisions.	Financial decisions	Remund (2010)
The ability to understand financial information and make effective decisions, by using this information.	Understanding and decision-making	Robb, Babiarz and Woodyard (2012)
Encompasses financial literacy in three dimensions: financial knowledge, financial behavior, and financial attitude.	Financial knowledge, financial behavior, and financial attitude	Atkinson and Messy (2012); OECD (2013)
Measured through a set of questions that measure primary financial concepts, such as capitalization of interest, inflation, and risk diversification.	Financial knowledge	Lusardi and Mitchell (2014)

Source: adapted from Potrich, Vieira and Kirch (2015).

2.1 THE IMPORTANCE OF FINANCIAL LITERACY

Lusardi and Mitchell (2011) claim that individuals will increasingly need to look after their retirement saving and decumulation plans, and their retirement security will depend even more on individual decisions. Hence, differently from the past generations that used to have their retirement pensions implemented and managed by governments, what is observed today is an increasingly personalized pension envi-

ronment where individuals diversify and often manage their own investments when looking for a better retirement (LUSARDI; MITCHELL, 2014).

Agarwalla et al. (2013) affirm that considering an environment where the scope and the complexity of financial products and services keep increasing, it is necessary that individuals develop a solid understanding on the world of finance to be able to become good decision-makers and use the right path to achieve their financial goals and needs. According to Jappelli and Padula (2013), investing in financial literacy generates better investment opportunities for individuals, raising the returns to savings.

Hastings and Tejada-Ashton (2008) show that the way information is presented to individuals impacts the choice of funds, and thus, financially illiterate workers pay much more attention to fees when fees are presented in local currency, while financially literate participants in their survey have no change in choice behavior when facing fees in pesos instead of in annual percentages.

In this context, financial literacy starts to be seen as a key element in the economy and in people's personal life when investors are faced with a wide range of options among financial products and services.

Agarwalla et al. (2013) highlight the financial literacy particular relevance to emerging economies. They say that as these emerging economies (such as Mexico, Brazil and India) aim to develop the financial situation of their citizens by achieving higher economic growth rates, improvement of financial literacy would help improve the financial well-being of their people even further through sound financial decision making.

Addressing the issue specifically to the Mexican reality, Orozco, Yansura and Carmichael (2014) state the theme as very important for Mexico, where only one out of every three adults has a bank account and only 6.7% of Mexicans declare saving at a formal financial institution. It is also presented by them that the population surveyed does not have financial products because they see financial services as unnecessary, complicated, or only for wealthy. From this data, it is possible to see the lack of financial knowledge, behavior and attitude present in the population, and infer how financial literacy programs and new public policy about the theme can help Mexicans to manage better their resources.

Bruhn, Lara Ibarra and McKenzie (2013) state that along with the growth of access to financial services, also grows the concern that many consumers may not have financial information and skills to use these new products responsibly. They also agree that there is a particularly concern in middle-income countries such as Mexico, which have had fast expansions of access to finance services recently, and thus, ha-

ving low-income individuals into the formal financial market for the very first time. Fatoki and Oni (2014) summarized that less financially literate individuals are less likely to plan for retirement, less likely to participate in the stock markets and more likely to have more expensive debt. They explain the impact of financial literacy on an individual's financial decisions reach mostly areas such as savings, borrowing, retirement planning, and portfolio choice.

Amadeu (2009) affirms that financially literate individuals can compare better the available possibilities, understand the characteristics of various options, know how to calculate and compare the costs of each product, as well as determine their borrowing capacity. He also suggests that financial education is an investment with gains both for customers and for financial service providers.

Vieira et al. (2016) summarized financial literacy as a key component for a comfortable adult life, considering the current society, which require from customers an individual responsibility and self-sufficiency. They are convinced that learning an effective way to manage personal finances as well as know how to deal consciously with the credit card system, it is extremely important in shaping responsible attitudes and behavior when it comes to management of personal finances and to life as one all.

Bruhn et al. (2013) defend the idea to introduce financial literacy in formative schooling years due to their beliefs that creating good financial habits at an early age are likely to bring benefits to schooling, employment, and standards of living throughout adulthood. They also point out that well-informed students are able both to modify their own financial choices and also to act as agents of change in their households' financial decisions.

3 METHOD

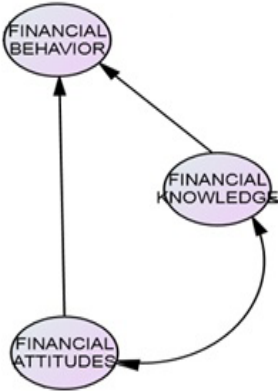
3.1 MODEL

This study was based on assumptions found by Potrich, Vieira and Kirch (2015), and used the three models tested in their work in order to obtain a comparative study.

Although it was tested the three models, the software used to analyze the data surveyed was not able to generate a model to explain the array of the observed data of

two out of the three models. Thus, this paper only used the one considered by them to be the most adequate, and it is shown below in Figure 1.¹

Figure 1 – Constructs of the research



Source: adapted from Potrich, Vieira and Mendes-Da-Silva (2016).

Note: For simplicity, observed variables and errors have not been represented in the figure.

3.2 PARTICIPANTS

Through field research, it was carried out a quantitative research and of exploratory nature. Primary data that were obtained by the authors through the use of questionnaires were used. A sample of 278 students attending universities located in the state of Coahuila, in the north of Mexico was done. The survey was applied in different campuses, reaching students of different majors. The data were collected with students who were willing to participate and under the supervision of professors. The instrument used in this research consists of four groups of questions (financial attitude, financial behavior, basic financial knowledge, and advanced financial knowledge), and was undertaken between October 2015 and March 2016. It sought to identify student profiles according to six socioeconomic and demographic variables: gender, age, marital status, number of dependent family members, occupation and income.

The northern region of Mexico was selected to be carried out this study due to the proximity to the U.S.A, the large number of established companies which move

¹ The other two models proposed by Potrich, Vieira and Mendes-Da-Silva (2016) were also tested, but it was not possible to get a model with good fit. The AMOS was not able to generate a model to explain the array of the observed data.

big part of the country's economy, greater purchasing power of households, and where the headquarters of the most important private university in Mexico, the Instituto Tecnológico y de Estudios Superiores de Monterrey and the renowned Universidad Autónoma de Coahuila are located, both responsible for preparing the children of businessmen and traders for the job market. The north of Mexico is also one of the most important region of the country regarding the number of diversified companies and industries.

Among the reasons which justify the decision to use Mexican university students, this study highlights three of them: a) The lack of studies about financial literacy levels present in Mexico. b) University students were chosen due to results reported by Lusardi and Mitchell (2005), in which a high correlation between financial literacy and schooling is found, therefore, the lower the educational level, the less likely to respond correctly and more likely to say they do not know. c) According to Mendes-Da-Silva, Nakamura and Moraes (2012), university students are in a moment of their lives where they have growing responsibilities and find themselves obliged to make decisions that will define their financial independence and affect their future well-being and security.

3.3 INSTRUMENT

The instrument used in this study has been developed and validated by Potrich, Vieira and Mendes-Da-Silva (2016). First, to model financial behavior, 20 questions, a five Likert scale (1 = never and 5 = always) was used to evaluate university student behavior concerning financial management, including the use of personal credit, planned consumption, investments and savings. High scores on the scale attest good financial behaviors (POTRICH; VIEIRA; MENDES-DA-SILVA, 2016).

To evaluate the academic level of financial knowledge, they constructed two subgroups: i) basic knowledge and ii) advanced knowledge. To evaluate the first group (basic knowledge) three questions were used aiming to measure basic financial skills, covering topics such as inflation, tax rates and the value of money in time. Each correct answer from the basic knowledge group was awarded a score of 1.0. To evaluate the second group (advanced knowledge), there are five questions to explore themes around complex financial instruments, such as shares, public bonds and risk diversification. Each correct answer from the advanced knowledge group received a score of 2.0. Potrich, Vieira and Mendes-Da-Silva (2016) affirm that conforming to this scale, the higher the score of respondents, the better is the level of financial knowledge.

To model financial attitude, nine questions organized around a five Likert scale (1 = absolutely disagree and 5 = absolutely agree) were used. The main goal of this scale is to identify how individuals evaluate their financial management. Hence, the higher the score, the better is the financial attitude of the individual (POTRICH; VIEIRA; MENDES-DA-SILVA, 2016).

For an analysis of the collected data, this research had the support of the Analysis of Moment Structures (AMOS) 18 software.

4 RESULTS AND DISCUSSION

4.1 SOCIOECONOMIC AND DEMOGRAPHIC CHARACTERISTICS

To analyze the socioeconomic and demographic profile of the 278 respondents, six variables were used: a) gender; b) age; c) marital status; d) number of dependent family members; e) occupation; and f) monthly income.

Regarding to gender and marital status of respondents, Table 1 presents an overview. It is observed that 54.67% of respondents were female, which match with the Brazilian population surveyed by Vieira et al. (2016), and that most of them (93.88%) were single.

Table 1 – Gender and Marital Status

	Variables Single	Marital Status			Total	
		Married	Divorced	Other		
Gender	Female	143	6	2	1	152
	Male	118	3	2	3	126
Total		261	9	4	4	278

Source: the authors.

Based on occupation and age of participants, an overview is presented in table 2. The age result found in this section is justified by the target group of this research, which are university students, and is in accordance to the data found in the research of Díez and Pérez-Fortis (2010), that shows that 90.2% of their participants are in the average age between 17 and 24 years old.

Table 2 – Occupation and age

	Variables Less than 18	Age				Total	
		18-23	24-29	30-34	over 34		
Occupation	Salaried employee	0	77	14	0	1	92
	Civil servant	0	1	0	0	0	1
	Autonomous Independent	0	17	1	0	0	18
	Student / Intern	5	156	6	0	0	167
	Total	5	251	21	0	1	278

Source: the authors.

It shows that 39.92% of respondents, besides being university students, also work, either with a fixed salary (civil servant / employee) or as autonomous. It also presents that most respondents (90.28%) are located in young-adulthood (18-23 years old).

Based on monthly income and the number of dependent family members, an overview is presented in table 3.

Table 3 – Monthly Income and Dependent Living

	Variables None	Number of dependent family members				Total
		One	Two	Three		
Monthly Income	Zero	106	1	2	0	109
	Less than MX\$ 3,000	82	8	1	1	92
	From MX\$ 3,001 to 6,000	MX\$ 55	4	3	0	62
	From MX\$ 6,001 to 9,000	MX\$ 11	0	1	1	13
	More than MX\$ 9,000	2	0	0	0	2
Total		256	13	7	2	278

Source: the authors.

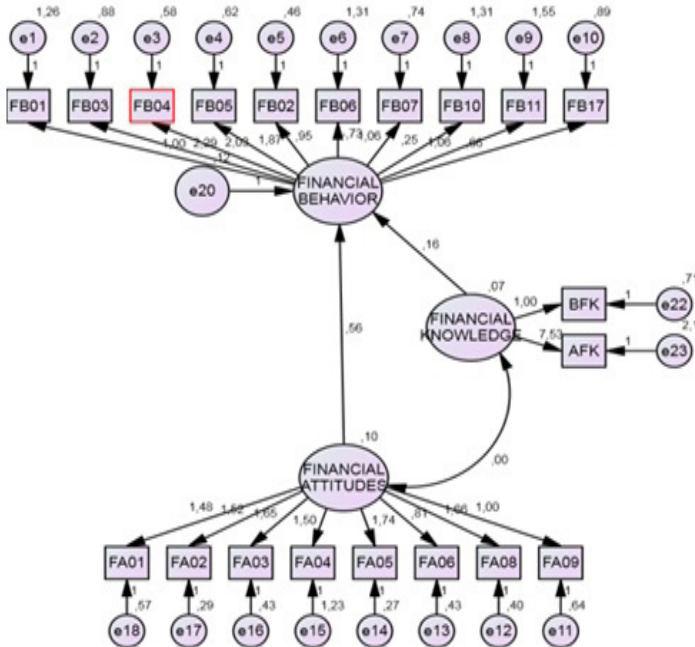
It is observed that among college students surveyed, only a small part of them (7.91%) have one or more dependent living, which meets the profile of college students worldwide. It also shows their monthly average income, where 0.72% of them declared having more than MX\$ 9,000, 4.67% announced having between MX\$ 6,001 and MX\$ 9,000, 22.3% reported having between MX\$ 3,001 and MX\$ 6,000, 33.09% declared having less than MX\$ 3,000, and 39.2% stated to not have anything, as a monthly income. Their income comes primarily from salaried jobs, scholarships provided by the universities, and paid internships.

4.2 STRUCTURAL EQUATION MODELING

In order to have more significant results, this study used one¹ of the three models proposed by Potrich, Vieira and Mendes-Da-Silva (2016), the one determined by them to be the most adequate. This model was constructed based on the findings made by studies carried out by the three authors, which state that financial knowledge and attitude precede financial behavior, and that financial attitude is correlated with financial knowledge. Therefore, in this model, it was assumed that knowledge and attitude have an influence on financial behavior and that there is a correlation between attitude and behavior.

In order to obtain a good fit indicator, by simulation, only those variables with good statistical significance were left. Remaining then, eight variables from the nine initials of financial attitude, and ten of the twenty initials variables of financial behavior, as shown in figure 2 below. The remaining variables in the proposed model were able to represent reality, forming the latent variables (financial attitude, financial behavior and financial knowledge).

Figure 2 – Structural equation model proposed



Source: the authors.

To validate the proposed model, it was used three quality measures, which were: absolute fit, incremental and parsimonious. The quality of the absolute adjustment refers to the degree to which the model predicts the observed correlation matrix. To measure the absolute fit, it was used the root mean square error of approximation (RMSEA), which aims to measure the discrepancy per degree of freedom if the model were estimated in the population, being recommended a value of less than 0.08 (GARSON, 2012; ARBUCKLE, 2010; HAIR JUNIOR et al., 2009).

For the proposed model, the RMSEA calculated was 0.052, as it can be seen in table 4. Thus, it is observed that the absolute adjustment obtained is acceptable, i.e., the model used can predict adequately the correlation matrix observed.

Table 4 – Quality index of the absolute fit

Model	RMSEA	LO 90	HI 90	PCLOSE
Default model	0.052	0.042	0.062	0.358
Independence model	0.134	0.127	0.142	0.000

Source: Survey data.

It is worth to justify that the chi-square statistic was not adopted as a quality measure of the absolute fit due to the fact of being highly sensitive to sample size and therefore, when referring to large samples (more than 200 elements), as it is in this research, it tends to indicate significant differences for any given model (GARSON, 2012; ARBUCKLE, 2010; HAIR JUNIOR et al., 2009).

Besides the quality of absolute fit, it was also evaluated the quality of the incremental adjustment, which is responsible to compare the model with a reference model, called null model, which usually features a single construct and all indicators measuring this construct in a perfect way (HAIR JUNIOR et al., 2009).

To measure the quality of the incremental adjustment, it was opted for the goodness-of-fit index adjusted (AGFI), ranging from 0 (poor fit) and 1 (perfect fit) and represents the comparison between the square residues of forecast data and the actual input data adjusted by the ratio between the degrees of freedom for the model and the degrees of freedom for the null model, being recommended equal to or above 0.9 (GARSON, 2012; ARBUCKLE, 2010; HAIR JUNIOR et al., 2009). As demonstrated in table 5, for the proposed model, the AGFI calculated was 0.880. Therefore, it is verified that, although it is outside the recommended range, the calibrated setting quality index obtained is approaching the threshold of 0.9, what indicates that the incremental adjustment of the model is satisfactory.

Table 5 – Quality index of the incremental adjustment

Model	RMR	GFI	AGFI	PGFI
Default model	0.069	0.904	0.880	0.719
Saturated model	0.000	1.000	0.000	0.000
Independence model	0.181	0.590	0.547	0.534

Source: the authors.

To measure the quality of the parsimonious adjustment (as illustrated in table 6), which relates the obtained adjustment from the model proposed by the number of estimated coefficients and diagnoses whether there was “super adjustment” of the data due to the existence of many factors, it was decided to use as a measurement the normed chi-square. The normed chi-square is the ratio of the model chi-square and the number of degrees of freedom, being recommended that the value obtained is less than 5 (SCHUMACKER; LOMAX, 2004; WHEATON et al., 1977; JÖRESKOG, 1970). In the proposed model, normed chi-square was 1.750, which indicates that the parsimonious adjustment obtained is satisfactory, i.e., there is no evidence of super adjustment in the adjustment.

Table 6 – Quality index of the parsimonious adjustment

Model	NPAR	CMIN	DF	P	CMIN/DF
Default model	43	292.194	167	0,000	1.750
Saturated model	210	0,000	0,000	0,000	0,000
Independence model	20	1138.002	190	0,000	5.989

Source: Survey data.

Based on the analysis of the three measures of adjustment quality, it was found that the model has an acceptable fit, and therefore presents significant explanation of the array of input data.

4.3 ROBUSTNESS CHECK

For statistical data, this study worked with a 95% confidence level. The proposed model aims to analyze the influence that financial attitudes of university students from northern Mexico have on their financial behavior, the influence that the financial knowledge has on the financial behavior, and the mutual influence between financial knowledge and financial attitude.

The tested structural equations model was able to explain 23.7% of variance of financial behavior. The relationship between financial attitude and financial beha-

avior is considered statistically significant, considering the level of significance found was 0.000 and the standardized coefficient was 0.469. So, it is evidenced by the data obtained that the financial attitudes of the individual will affect his financial behavior (Table 7).

Table 7 – Relationship between constructs investigated for Financial Literacy

			Stand. Regres- sion Wei- ghts	S.E.	C.R.	P
FINANCIAL_ BEHAVIOR	←	FINANCIAL_ATTITUDES	0.469	0.165	3.407	0.000
FINANCIAL_ BEHAVIOR	←	FINANCIAL_KNOWLEDGE	0.111	0.125	1.308	0.191
FB01	←	FINANCIAL_BEHAVIOR	0.327			
FB03	←	FINANCIAL_BEHAVIOR	0.689	0.481	4.769	0.000
FB04	←	FINANCIAL_BEHAVIOR	0.720	0.422	4.807	0.000
FB05	←	FINANCIAL_BEHAVIOR	0.677	0.394	4.753	0.000
FB02	←	FINANCIAL_BEHAVIOR	0.478	0.221	4.303	0.000
FB06	←	FINANCIAL_BEHAVIOR	-0.242	0.245	-2.999	0.003
FB07	←	FINANCIAL_BEHAVIOR	0.431	0.256	4.133	0.000
FB10	←	FINANCIAL_BEHAVIOR	0.084	0.204	1.223	0.222
FB11	←	FINANCIAL_BEHAVIOR	0.314	0.299	3.538	0.000
FB17	←	FINANCIAL_BEHAVIOR	0.262	0.208	3.16	0.002
FA09	←	FINANCIAL_ATTITUDES	0.374			
FA08	←	FINANCIAL_ATTITUDES	0.645	0.307	5.404	0.000
FA06	←	FINANCIAL_ATTITUDES	0.374	0.191	4.26	0.000
FA05	←	FINANCIAL_ATTITUDES	0.732	0.311	5.587	0.000
FA04	←	FINANCIAL_ATTITUDES	0.401	0.339	4.429	0.000
FA03	←	FINANCIAL_ATTITUDES	0.632	0.308	5.369	0.000
FA02	←	FINANCIAL_ATTITUDES	0.676	0.278	5.477	0.000
FA01	←	FINANCIAL_ATTITUDES	0.536	0.293	5.069	0.000
BFK	←	FINANCIAL_KNOWLEDGE	0.299			
AFK	←	FINANCIAL_KNOWLEDGE	0.807	12.66	0.594	0.552

Source: the authors.

Although finding a coefficient (0.111) very close to that found in the work of Potrich, Vieira and Mendes-Da-Silva (2016), in this study, with 95% reliability, it was not possible to validate the relationship between financial knowledge and financial behavior of the individual. Therefore, unlike the findings of Potrich, Vieira and Mendes-Da-Silva (2016), it was not possible to demonstrate that the financial knowledge of

the individual exerts influence on his financial behavior. This information reveals that among Mexican students surveyed, the financial knowledge level of the individual will not make him have a more adequate financial behavior.

Table 8 – General statistics between the constructs Financial Attitudes and Financial Knowledge

	Estimate	S.E.	C.R.	P
FINANCIAL ATTITUDES \leftrightarrow FINANCIAL KNOWLEDGE	0.004	0.009	0.413	0.680

Source: the authors.

As noted in Table 8, in the correlation between financial attitude and financial knowledge, the results found in this study are compatible with those found in the research of Potrich, Vieira and Mendes-Da-Silva (2016), where it is verified that there is no statistical significance between the two variables, i.e., the financial attitude of the individual does not influence his financial knowledge or vice versa.

4.4 IMPLICATIONS OF THE RESEARCH FINDINGS

The results in this study provide important information about the intensity of the relationship between knowledge, attitudes and financial behavior among the population surveyed. Although using the same mechanism of other researches, results still differ among different populations. It implies and reinforces the need for further study on the topic.

The study and research on financial literacy and its correlated factors may help to understand the current level of financial literacy of a given population, and based on these results, create strategies for the development of the set of knowledge, attitudes and financial behavior. Individuals and families with higher levels of financial literacy tend to better manage their resources and therefore can reach satisfactory financial well-being. It is understood then, that if the population of a country were financially literate, the lower would be its debt levels and the financial resources would be better used.

The implication of the findings is the necessity of the development of politics that allow individuals since early age to learn how to manage their financial resources and not paralyze when faced with the need to deal with the financial products. The development of public strategies for financial literacy in all spheres of society may induce and encourage citizens for savings, and also make them aware of an adequate

use of money and credit. The greatest part of participants in this research are single, between the age of 18 and 23, and around 40% of them have no monthly income.

5 FINAL CONSIDERATIONS

The main goal of this study is to measure the financial literacy level of university students present in the northern region of Mexico, following the financial literacy concepts exposed in the introduction. It is observed through the literature review on financial literacy done in this paper that it has been studied more often recently due to its importance on helping people to make right decisions regarding to money, and consequently, achieve a financial well-being. A wide range of options among financial products and services have been offered and easily accessed for people who would never imagine having these possibilities some decades ago. Therefore, financial literate people are more prone to better deal with and use these new financial products and services.

Through the main findings of this research, it is seen that financial attitude influences the financial behavior of an individual, financial knowledge does not influence the individual's financial behavior, and, that there is not a correlation between financial attitude and financial knowledge. Thus, if it is wanted to create a more conscious financial behavior in a person, it is necessary to act on his/her attitudes, because on the students surveyed, the financial knowledge will not interfere.

As a high relationship between the variables financial attitude, financial behavior and financial knowledge was not found, it is concluded that the level of financial literacy of Mexican college students in the north of the country is low. It implies in the necessity to invest in financial literacy programs that could help this population to better manage their resources, what would certainly impact on its savings and consumption decisions, and retirement planning.

Some findings differed from those found by Potrich, Vieira and Mendes-Da-Silva (2016) and from the assumptions of the model, which may be due to the cultural, economic and social differences of the target audience of this research. Based on the studies carried out by Potrich, Vieira and Mendes-Da-Silva (2016), the proposed model has the premise that financial knowledge and attitude precede financial behavior, and that financial attitude is correlated with financial knowledge. The results found in this study can demonstrate that financial behavior impacts financial attitude, but could neither find an impact caused on behavior by knowledge nor a correlation between attitude and knowledge.

The research objectives were achieved and further information on the level of financial instruction of university students was obtained. Following the parameters of Atkinson and Messy (2012) of the OECD, the results on financial literacy show its importance through the capability to identify gaps and needs, and therefore, develop adequate national policies and strategies. This seems to be a pioneering study. As it was not found similar content in the literature, for the very first time it is presented information on the level of financial literacy of university students in the northern Mexico. This research could be used as a comparative base for future studies in the country and the elsewhere in the world.

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