European Journal of Contemporary Education

ELECTRONIC JOURNAL

Financial Literacy, Savings Culture and Millennials Students Behavior Towards Retirement

Aracely De Los Santos-Gutiérrez [a], Violetta S. Molchanova [b, c], Rocío González-Fernandez [a], Arturo García-Santillán [a, d, *]

[a] UCC Business School at Cristóbal Colón University, Veracruz, Mexico
[b] Cherkas Global University, Washington, USA
[c] Volgograd State University, Volgograd, Russian Federation
[d] Misantla Institute of Technology, Veracruz, Mexico

Abstract

The objective of this work is to know, based on gender, the level of financial literacy of millennials students in the city of Veracruz; whether they have a savings culture and their behavior regarding retirement savings. For this, the descriptive cross-sectioned method was used, with a sample of 120 millennials students from Veracruz between 17 and 40 years of age. The data was obtained from an electronic survey applied through WhatsApp and Facebook. The instrument used was designed with items taken from surveys by Lusardi and Mitchell (2014), CONSAR+ (2017), Banamex (2014) and Banamex-UNAM (2008). Subsequently, the Cronbach's alpha coefficient was used to test the reliability of the instrument. The main findings are that this group has basic financial knowledge, however, not enough to handle more complex financial products such as bonds. In terms of gender, it is men who have a higher level of financial literacy, while it is women who have a greater culture of saving and are more aware of the importance of saving for retirement.

Keywords: Financial literacy, financial knowledge, millennials students.

1. Introduction

The most recent generation to enter the workforce are millennials, who are individuals born between 1980 and 2000 (Smith, Nichols, 2015). They are called millennials because they are the generation that was born with the new millennium, in a very digital era (Kaifi et al., 2012) and with a great acceptance of non-traditional values and families (Andert, 2011).

---
* Corresponding author

E-mail addresses: agarcias@ucc.mx (A. García-Santillán), aracelyde.san@gmail.com (A. De Los Santos-Gutiérrez), v.molchanova_1991@list.ru (V.S. Molchanova), rgonzalez@ucc.mx (R. González-Fernandez)

Financial literacy is essential for Millennials, as they face financial decisions that can have important consequences throughout their life. The financial choices that younger generations face are far more challenging than those faced by past generations. Individuals today must take on greater responsibility for decisions like investing in additional education and planning for retirement. When facing major decisions such as these, financial literacy is critical (Lusardi, Mitchell, 2017).

Constant savings as well as having a retirement plan, allow people to maintain a similar lifestyle to the one they have when they are still working. Data from the National Survey of Financial Inclusion (ENIF, 2018) in Mexico, show that only 40 percent of the population has a retirement savings account, a percentage that decreases by region. For example, in the South central region and East and South of Mexico, this percentage only reaches 32 and 29 percent respectively (CNBV and INEGI, 2018).

Valdivia et al. (2017) carried out a study in the state of Veracruz that shows that people's financial culture does improve decision-making. The financial culture acquired impacts the priority for forecasting and long-term savings. However, it is also observed that the majority do not do enough to increase their savings, and there is a difference in terms of gender.

Women face unique challenges with longer life expectancies than men, shorter working lives than men, and career interruptions due to parenting (Lusardi, Hasler, 2017). In addition, women plan less, therefore they are less prepared than men to face their retirement from work (Lusardi, Mitchell, 2008).

The new generations have to change their mindset, begin to consider the idea of the importance of saving and understand that each individual must be in charge of their own pension through savings (Villarreal, Macías, 2020). The above leads us to the following questions from a gender perspective: what is millennials' level of financial literacy? Do they have a savings culture? What is their behavior regarding retirement savings?

2. Discussion

Financial literacy has been defined in the literature as a combination of awareness, knowledge, ability, attitude and behavior (OECD, 2018; Dube, Pradeep, 2018; Atkinson, Messy, 2012; Saavedra, 2020; Capuano, Ramsay, 2011). Financial literacy allows a greater participation of the population in various products and services offered by the financial sector, translating into higher levels of financial inclusion and reduction of social gaps (Álvarez, Ruiz, 2016). Taft et al. (2013) explain that financial literacy causes a reduction in financial concerns by improving the ability to meet basic needs and provide compatibility between financial income and expenses.

Like knowledge, behavior and attitude towards financial products are essential elements of financial literacy (Idris et al., 2015; OECD, 2018). Various studies confirm that the higher the financial literacy, the better the financial attitude and behavior of millennials (Das, 2016; Ariffin et al., 2017). Specifically, financial knowledge will have a positive impact on decision-making and behavior such as increasing wealth or preparing for retirement (Annabi et al., 2018; Ali, Frank, 2019; Mountain et al., 2020).

Gautam and Matta (2016) show that age, marital status, annual household income, real estate ownership, duration of investments, and portfolio review frequency significantly affect an individual's financial behavior as well. Lusardi (2019) mentions that the factors that have some impact on financial behavior in millennials are age, gender and the ethnicity they belong to.

Saving is one of the behaviors that generates greater resilience in order to face financial crises and promote financial well-being (OECD, 2017). Attitude and behavior, according to Kimiyagahlam, Safari and Mansoric (2019), lead the individual to save and not just remain with the intention of doing so.

Numerous studies around the world have been carried out to analyze the knowledge and financial behavior of millennials, especially in terms of saving for retirement. Das (2016) states that there are differences in financial education among millennials in India, according to the academic area they study. As a result of his research, it is shown that, although 60 percent of the total respondents answer most of the questions that measure the level of financial knowledge correctly; less than 30 percent answer correctly when asked about topics such as time value of money and corporate taxes. Those studying accounting/finance got better results than HR and marketing

students. However, there are other factors such as the parents' level of education, especially that of the mother, which plays an important role in the financial education of millennials.

Factors such as being a first-generation student and having a student loan or owning a credit card, influence the financial knowledge they acquire during university (Annabi et al., 2018). Likewise, demographic factors and financial attitude must be considered in order to improve financial planning. According to Selvadurai, Kenayathulla and Siraj (2018), planning for retirement requires monetary goal setting, early financial exposure, and financial awareness, as many older people face the dilemma of not having enough money to live when they retire.

On the contrary, Gale, Gelfond and Fichtner (2018), when comparing the millennial generation and their parent's generation, find that the former have advantages such as a higher schooling degree, and have a longer and flexible working life. However, millennials do not take on as many responsibilities as their parents. It is observed that this new generation does not usually have their own retirement plans, marry and have children at the age their parents did it.

There is a hypothesis that young people are not saving enough for retirement, particularly when it comes to women. Foster, Heneghan and Wijeratne (2019) explore millennial women's attitudes and motivations towards pension savings and self-enrollment, finding that although the introduction of self-enrolled pensions is generally received positively, the knowledge they have about pensions is still limited, increasing the risk that millennial women may not save enough for a decent retirement.

Attitudes towards money and financial literacy have a significant positive impact on young adults' personal financial management behavior, and financial literacy has a positive moderating impact on the relationship of attitudes towards money and personal financial management behavior (Qamar et al., 2016).

Once the theoretical body of the study has been analyzed and discussed, the methodology to be followed for the development of the analysis that will answer the research questions is presented.

Research Methodology

This study takes a sample of millennials students between the ages of 17 and 40, located in the Veracruz-Boca del Río metropolitan area. For this purpose, a survey on financial knowledge and behavior regarding retirement savings was organized. The survey was applied through electronic means such as email, WhatsApp and Facebook and was answered by 120 millennials students.

The instrument used was constructed as follows: to measure financial literacy, the three questions from Lusardi and Mitchell (2014) were included, the third section on the culture of savings was taken from the national survey by CONSAR (2017): What do Mexican millennials students think about retirement savings? and the questions were converted to a Likert-type scale. The section on financial behavior in terms of retirement savings was built with items from the Survey on Financial Culture of Young People in Mexico (Banamex, 2014) and the First Survey on Financial Culture in Mexico (Banamex, 2008). The instrument applied is presented in Appendix 1.

To analyze whether the instrument used is reliable, the Cronbach's alpha coefficient is estimated, then non-parametric statistics are used, specifically the use of cross tables to verify the frequencies of each indicator and its comparison between gender.

3. Results

For the analysis of the data matrix, the Cronbach's alpha is used to evaluate the reliability and internal consistency of the instrument, as well as the parallel and strict parallel procedure, and later the statistical analysis to answer the study question. Tables 1 and 2 show the results.

Table 1. Reliability of the Cronbach's alpha instrument

Cases processing summary			Model goodness of fit test		Reliability Statistics	
	N	%	Chi-square	Value 3276.294	Common mean	3.536
					Common	5.989

Cases	Valid	120	100.0		gl	132	True variance	-.228
	Excludedª	0	.0		Sig	.00	Error variance	6.218
	Total	120	100.0	Logarithm determinant:	Unconstrained matrix	-2.083	Common items correlation	-.040ª
					Constrained matrix		Scale reliability	-1.376ª
Cronbach´s alpha		0.443	Items 15			26.575	Unbiased scale reliability	-1.316ª

ª· Deletion by list is based on all the procedure variables. — Under the parallel model assumption

Table 2. Reliability of the instrument using the Strict Parallel method

Model goodness of fit test			Reliability statistics	
Chi-square	Value	1035.676	Common mean	3.536
	gl	118	Common variance	5.989
	Sig	0.000	True variance	-.228
Logarithm determinant of the	Unconstrained matrix	-1.268	Error variance	6.218
	Constrained matrix		Common items correlation	
		6.838		-.040ª
Under the parallel model assumption			Scale reliability	-1.376ª
			Unbiased scale reliability	-1.316ª

ª· The average covariance between items on this scale is negative. This misestimates the assumptions of the reliability model. Statistics that are functions of this value may have estimates outside the theoretically possible ranges.

In relation to the reliability of the instrument items, a Cronbach's alpha of 0.461 was obtained, which is very low, which violates the reliability assumptions suggested by the theory (Hair et al, 1997). This result is probably due to the variety of responses to the items. In addition, the data did not obtain normality, so nonparametric statistics are used for the analysis of the data matrix.

Table 3. Gender, age, educational level and occupation of the participants

Variable	Frequency	Percentage	Cumulative percentage
Gender			
Male	66	55	
Female	54	45	100
Age			
17-20	9	7.5	
21-24	47	39.2	46.2
25-28	33	27.5	74.2
29-32	17	14.2	88.4
33-36	7	5.8	94.2
37-40	7	5.8	100
Educational level			

High school	21	17.5	
Bachelor	87	72.5	90
Master degree	12	10	100
Occupation			
Student	19	15.83	15.83
Student and employee	100	83.33	99.17
Retired or unemployed	1	.83	100.00

As can be seen in Table 3, 55 % of the participants are men and 45 % women. About 40 % of the population is in an age range between 21 and 24 years. 72.5 % of the population has a bachelor's degree and 83.33 % of the surveyed participants study and work. Regarding financial literacy indicators by gender, Table 4 describes the results.

Table 4. Cross table on financial literacy by gender

		CF1					
	Variable	*More than $ 102	Exactly $ 102	Less than $ 102	I don´t know	I would rather not to say	Total
Gender	Male	51	4	5	6		66
	Female	39	6	3	8		54
Total		90	10	8	12		120
		CF2					
		More than today	Exactly the same	*Less than today	I don´t know	I would rather not to say	Total
Gender	Male	3	6	35	21	1	66
	Female	5	9	28	11	1	54
Total		8	15	63	32	2	120
		CF3					
		*They will increase	They will decrease	They will stay the same	There is no relationship	I don´t know	Total
Gender	Male	16	13	2	11	24	66
	Female	16	10	2	9	17	54
Total		32	23	4	20	41	120

Note: * Correct answer.

The results of the three questions that measure financial literacy show that there are different levels between men and women. In the first question, which assesses the calculation of simple interest, 75 % of all cases answered correctly, the highest percentage being that of men with 56.66%, followed by 43.34 % of women.

The second question that evaluates knowledge regarding the effect of inflation, 52.5 % answered correctly, and again men with the highest percentage (55.55 %) versus women (44.45 %). Finally, in the third question, which assesses the knowledge that people have regarding the behavior of the capital market, only 26.7 % answered correctly and in a higher percentage, 34.16 % of the participants answered "I don't know", a response indicated in a greater number of cases by men (58.53 %).

In relation to the variable on savings culture, the results of the twelve indicators are shown in Tables 5 and 5a in which specific actions associated with savings are proposed, with opinions ranging from not very important (1) to very important (7).

Table 5. Cross table on savings culture by gender

Variable		Statement							Total
Variable		If I had money I would save it to buy a property / house / apartment							Total
		1	2	3	4	5	6	7	
Gender	Male	1	0	1	10	5	13	**36**	66
	Female	0	0	0	5	4	10	**35**	54
Total		1	0	1	15	9	23	**71**	120
		If I had money I would save it to start a business							
		1	2	3	4	5	6	7	Total
Gender	Male	1	2	2	7	9	8	**37**	66
	Female	2	1	2	5	5	6	**33**	54
Total		3	3	4	12	14	14	**70**	120
		If I had money I would save it for retirement							
		1	2	3	4	5	6	7	Total
Gender	Male	3	3	2	8	13	18	**19**	66
	Female	1	2	3	2	12	9	**25**	54
Total		4	5	5	10	25	27	**44**	120
		If I had money I would save it for traveling / vacation							
		1	2	3	4	5	6	7	Total
Gender	Male	3	2	4	17	**21**	10	9	66
	Female	1	0	7	9	**14**	9	14	54
Total		4	2	1	26	**35**	19	23	120
		If I had money I would save it to invest							
		1	2	3	4	5	6	7	Total
Gender	Male	0	1	4	5	10	12	**34**	66
	Female	0	1	3	4	11	9	**26**	54
Total		0	2	7	9	21	21	**60**	120
		If I had money I would save it to buy a car/motorcycle							
		1	2	3	4	5	6	7	Total
Gender	Male	11	1	9	11	**18**	6	10	66
	Female	0	5	8	9	7	13	12	54
Total		11	6	17	20	**25**	19	22	120

Table 5, which presents the results of the first six statements on savings culture, shows that 59.16 % (71 cases) consider it very important to save to buy real estate. In a higher proportion, it was women who valued this type of savings as very important (64.8 % of women versus 54.5 % of men). Similar is the response regarding saving to start a business, where 58.33 % consider that it is very important and women were also the majority (61.1 % of women against 56.1 % of men).

The option of saving for retirement had a lower percentage of responses (36 %) that consider it very important, compared to the options of saving to buy a property or start a business. In this indicator, women were also the majority. Another option that the participants consider as a destination for their savings is investment, half of the participants considered it a very important option, although in this case, more men than women responded that way (51.5 % versus 48.1 %).

The two options that the participants considered the least important were those that suggested that the destination of their savings was to buy a car or travel. Although in both cases, men give more importance to these two options than women.

Table 5a. Cross table on savings culture by gender

Variable		Statement							Total
		Save even if it is little by little							
		1	2	3	4	5	6	7	
Gender	Male	1	0	1	4	8	14	**38**	66
	Female	0	0	2	6	1	6	**39**	54
Total		1	0	3	10	9	20	**77**	120
		Save even if you do not earn enough							
		1	2	3	4	5	6	7	Total
Gender	Male	2	0	1	13	9	13	**28**	66
	Female	2	0	1	8	3	7	**33**	54
Total		4	0	2	21	12	20	**61**	120
		Spend the money right now							
		1	2	3	4	5	6	7	Total
Gender	Male	**21**	16	12	11	2	2	2	66
	Female	**21**	14	7	6	4	1	1	54
Total		**42**	30	19	19	6	3	3	120
		Keep financial records							
		1	2	3	4	5	6	7	Total
Gender	Male	2	7	2	6	6	15	**28**	66
	Female	0	1	2	6	6	10	**29**	54
Total		2	8	4	12	12	25	**57**	120
		Receive a pension							
		1	2	3	4	5	6	7	Total
Gender	Male	3	0	0	10	17	11	**25**	66
	Female	1	3	1	5	5	6	**33**	54
Total		4	3	1	15	22	17	**58**	120
		Save for old age							
		1	2	3	4	5	6	7	Total
Gender	Male	3	2	1	3	9	12	**36**	66
	Female	1	1	0	2	1	11	**38**	54
Total		4	3	1	5	10	23	**74**	120

Continuing with the items of savings culture, in Table 5a it is observed that the majority (64.1 %) of the respondents consider that saving, even a little or when income is not enough, is very important. In both responses, the percentage of women is higher than men. They were also the majority who consider that spending money at this time is very unimportant. 60 % chose the two least important options to answer this question. In a greater proportion, it was women who considered it that way (64.8 % women versus 56.1 % men).

It was also the majority who considered keeping financial records to be the most important, as well as saving for old age and receiving a pension. In all cases it was more women than men who responded to the three options with the highest scores. It is noteworthy that 90.7 % of women consider it very important to save for old age and although there was also a significant percentage of men who responded this way (72.7 %) it is notably lower than women.

An analysis of each of the indicators described in tables 5 and 5b was carried out in parallel by using the variable age and the result shows that the age range of the respondents in which the highest percentage of responses was focused on each indicator by gender, was between 23 and

25 years of age. In relation to the variable on financial behavior in terms of retirement savings, the results of the four indicators are shown in Table 6.

Table 6. Financial behavior in terms of retirement savings

Variable		Do you currently have any savings for your retirement?		
		No	Yes	Total
Gender	Male	**47**	19	66
	Female	**27**	27	54
Total		**74**	46	120
		Have you thought about saving for your retirement?		
		No	Yes	Total
Gender	Male	13	**53**	66
	Female	13	**41**	54
Total		26	**94**	120

Variable		How often do you read or learn about savings accounts, investments, loans, and retirement funds?			
		Never	Sometimes	Always	Total
Gender	Male	21	**40**	5	66
	Female	16	**36**	2	54
Total		37	**76**	7	120

Variable	At what age do you think a person should start saving to have a good pension?						Total
	Before 18 years old	From 18 to 19 years old	From 20 to 24 years old	From 25 to 29 years old	From 30 to 39 years old	From 40 onwards	
Gender Male	7	16	**17**	15	9	2	66
Female	7	9	**18**	9	9	2	54
Total	14	25	**35**	24	18	4	120

	How much would you be willing to save per month?				
	More than $100	Between $50 and $100	Between $10 and $49	Nothing	Total
Gender Male	**57**	6	3		66
Female	**45**	7	2		54
Total	**102**	13	5		120

In general, more than 50 percent of those surveyed (61.66 %) do not have savings for retirement: In a particular way, it can be said that in a higher percentage, women have worried less than men about having some savings for their retirement (24 % of women have not thought about saving for retirement, while 19.7 % of men have not either).

Despite the above, 78.33 % of those surveyed have thought about saving for retirement and 50 % consider that people should start saving for retirement between the ages of 18 and 29. 63.3 % of the participants sometimes read about savings, funds and investments for retirement and 30 % never read about it. However, in a very similar proportion between men and women, 85 % of those surveyed would be willing to allocate more than $ 100.00 Mexican pesos (five dollars approximately) per month in savings for their retirement.

4. Conclusion
Once the data obtained in the application of the instrument had been analyzed, the following can be discussed: in relation to the indicators on financial literacy, 75 % answered the indicator that evaluates the calculation of simple interest correctly, just over half knew how to calculate the effect of inflation. However, only 26 % know the relationship between the interest rate and the price of bonds. The first two questions were answered correctly mostly by men, however, it was a

higher percentage of women who answered the relationship between interest rate and price of bonds correctly. These results coincide with other studies such as those by Das (2017) and PwC (2015) which mention that millennials students are familiar with basic financial issues. However, concepts such as bonds, inflation and risk diversification, which tend to be more complex, are more difficult for millennials to understand them. Likewise, the results coincide in terms of gender with that reported by Fessler, Jelovsek and Silgoner (2020), who found that men have a higher level of financial knowledge than women.

Regarding the culture of savings, the results showed that for this generation it is still considered very important to acquire real estate as property, in addition to being attracted to the idea of having a business or making investments. On the contrary, they are not so interested in buying a car or motorcycle. This contrasts with the results of Alvarado and Duana (2018), who show that the highest percentage of what millennials students save is spent on vacations, romantic relationships, studies or buying a car and/or motorcycle. Likewise, women find it more important than men to save even if they don't earn enough, keep financial records, save for old age and receive a pension. It is also women who find it less important than men to spend money at this time. The above coincides with what Fessler, Jelovsek and Silgoner (2020) found in their research, which tells us that men obtain slightly worse scores than women in terms of behavior and financial attitudes and with Lusardi (2019) that mentions that the gender of the person does have a financial impact on millennials.

Finally, with regard to financial behavior in terms of retirement savings, the results show that this group is not taking sufficient action to increase their retirement savings, as the majority still do not have any savings of this nature and they are not always informed, despite having some interest in this topic.

References

Ali, Frank, 2019 – *Ali, S.B., Frank, H.A.* (2019). Retirement Planning Decisions: Choices Between Defined Benefit and Defined Contribution Plans. *The American Review of Public Administration.* 49(2): 218-235. DOI: https://doi.org/10.1177/0275074018765809

Alvarado, Duana, 2018 – *Alvarado, Elías, L., Duana, Danae, A.* (2018). Ahorro, retiro y pensiones: ¿Qué piensan los jóvenes adolescentes del ahorro para el retiro? [Savings, retirement and pensions: What do young adolescents think about saving for retirement?]. *Investigación administrative.* 47(122). [Electronic resource]. URL: https://bit.ly/3m8IiZB [in Spanish]

Álvarez, Ruiz, 2016 – *Álvarez, R., Ruiz T.J.* (2016). Alfabetismo financiero, Endeudamiento y Morosidad de los Hogares en Chile [Financial literacy, indebtedness and late payment of households in Chile]. Serie de documentos de trabajo. U. de Chile. Depto. de Economía. [in Spanish]

AMAFORE, 2016 – AMAFORE (2016). El SAR: Hacia un envejecimiento poblacional sustentable. Publicaciones de la Asociación Mexicana de AFORES. [Electronic resource]. URL: https://bit.ly/3dKq8KE [in Spanish]

Andert, 2011 – *Andert, D.* (2011). Alternating leadership as a proactive organizational intervention: addressing the needs of the baby boomers, generation xers and millennials. *Journal of Leadership, Accountability & Ethics.* 8(4): 67-83.

Annabi et al., 2018 – *Annabi, A., González-Ramírez, J., Müller, F.* (2018). What Determines Financial Knowledge among College Students? *Journal of Financial Education.* 44: 366. DOI: 10.13140/RG.2.2.11822.25924/1

Ariffin et al., 2017 – *Ariffin, M.R., Sulong, Z., Abdullah, A.* (2017). Students' Perception towards Financial Literacy and Saving Behavior. *World Applied Sciences Journal.* 35(10): 2194-2201.

ASF, 2018 – ASF. Comisión Nacional del Sistema de Ahorro para el Retiro. Pensiones bajo el Régimen de Cuentas Individuales [Pensions under the Regime of Individual Accounts]. Auditoría de Desempeño: 2018-5-06D00-07-0057-2019. [Electronic resource]. URL: https://bit.ly/3jW XOam [in Spanish]

Atkinson, Messy, 2012 – *Atkinson, A., Messy, F.* (2012). Measuring Financial Literacy: Results of the OECD. International Network on Financial Education (INFE) Pilot Study, OECD Working Papers on Finance, Insurance and Private Pensions. No. 15, OECD Publishing. DOI: http://dx.doi.org/10.1787/5k9csfs90fr4-en

Banamex, 2014 – Banamex. Cultura financiera de los jóvenes en México [Financial culture of young people in Mexico]. Síntesis de resultados. [Electronic resource]. URL: https://bit.ly/37SKroe [in Spanish]

Banamex-UNAM, 2008 – Banamex-UNAM (2008). Primera encuesta sobre la cultura financiera en México [First survey on financial culture in Mexico]. [Electronic resource]. URL: https://bit.ly/31PthnI [in Spanish]

Capuano, Ramsay, 2011 – *Capuano, A., Ramsay, I.* (2011). Financial literacy project research report. what causes suboptimal financial behavior? An exploration of financial literacy, social influences and behavioral economics. U of Melbourne Legal S. Research Paper 540.

CNBV e INEGI, 2018 – CNBV e INEGI/ Encuesta Nacional de Inclusión Financiera 2018. México Inclusión Financiera principales hallazgos nacionales y regionales. 2018. [Electronic resource]. URL: https://bit.ly/2GOujt8 [in Spanish]

CONSAR, 2016 – CONSAR. Ahorro para mi futuro ¿preocuparme desde hoy? [Saving for my future: worry about today?]. 2016. [Electronic resource]. URL: https://bit.ly/32zwdbT [in Spanish]

CONSAR, 2017 – CONSAR. Encuesta Nacional ¿Qué piensan los Millennials mexicanos del ahorro para el retiro? [National Survey. What do Mexican Millennials think about saving for retirement?]. 2017. [Electronic resource]. URL: https://bit.ly/3jzJbZE [in Spanish]

Das, 2016 – *Das, S.C.* (2016). Financial Literacy among Indian Millennial Generation and their Reflections on Financial Behaviour and Attitude: An Explanatory Research By. *The Indian Journal of Commerce*. 69: 16-34.

Dube, Pradeep, 2018 – *Dube, V. S., Pradeep, K.* (2018). Financial literacy: an overview of current literature and future opportunities. *EPRA International Journal of Economic and Business Review*. 6(1): 43-47.

Fessler et al., 2020 – *Fessler, P., Jelovsek, M., Silgoner, M.* (2020). Financial literacy in Austria–focus on millennials. Monetary Policy & the Economy, Oesterreichische Nationalbank (Austrian Central Bank). Q3/20: 21-38.

Foster et al., 2019 – *Foster, L., Heneghan, M., Wijeratne, D.* (2019). Women millennials' perceptions of pension savings through the use of auto enrollment in the UK pension system. *Journal of Women & Aging*. 31(4): 340-360. DOI: http://dx.doi.org/10.1080/08952841.2019.1591889

Gale et al., 2018 – *Gale, W., Gelfond, H., Fichtner, J.* (2018). How Will Retirement Saving Change By 2050? Prospects for the Millennial Generation. *Economic Studies at Brookings*. [Electronic resource]. URL: https://ssrn.com/abstract=3385522. https://brook.gs/3rNuCHY

Gautam, Matta, 2016 – *Gautam, S., Matta, M.* (2016). Socio-demographic determinants of financial behavior of individual investors in India. *Journal of IMS Group*. 13(1): 38-49.

Hair et al., 1998 – *Hair, J.J.F., Anderson, R.E., Tatham, R.L., Black, W.C.* (1998). Multivariate data analysis. 5th Edn., Upper Saddle River, NJ: Prentice Hall.

Idris et al., 2015 – *Idris, N., Yazid, Z., Faique, F., Daud, S., Bakri, M., Ismail, S., Taib, N.* (2015). Financial Literacy and Debt Burden Among Malay Muslim Youth Workers in Malaysia. *Journal of Computational and Theoretical Nanoscience*. 22(12): 4288-4292.

Kaifi et al., 2012 – *Kaifi, B.A., Nafei, W.A., Khanfar, N.M., Kaifi, M.M.* (2012). A multi-generational workforce: managing and understanding millennials. *International Journal of Business & Management*. 7(24): 88-93.

Kimiyagahlam et al., 2019 – *Kimiyagahlam, F., Safari, M., Mansoric, S.* (2019). Influential Behavioral Factors on Retirement Planning Behavior: The Case of Malaysia. *Journal of Financial Counseling and Planning*. 30(2): 244-261. DOI: http://dx.doi.org/10.1891/1053-3073.30.2.244

Lusardi, 2019 – *Lusardi, A.* (2019). Financial Well-Being of the Millennial Generation: An In-Depth Analysis of its Drivers and Implications, GFLEC Working Paper Series. [Electronic resource]. URL: https://gflec.org/wp-content/uploads/2019/12/Financial-Well-Being-of-the-Millennial-Generation-Paper-20191122.pdf

Lusardi, Hasler, 2017 – *Lusardi, Hasler* (2017). The Gender Gap in Financial Literacy: A Global Perspective. Global Financial Literacy Excellence Center. The George Washington University School of Business. [Electronic resource]. URL: https://gflec.org/wp-content/uploads/2017/07/The-Gender-Gap-in-Financial-Literacy-A-Global-Perspective-Report.pdf

Lusardi, Mitchell, 2008 – *Lusardi, A., Mitchell, O.* (2008). Planning and financial literacy: How do women fare? (Vol. 13750). *American Economic Review, American Economic Association.* 98(2): 413-17.

Lusardi, Mitchell, 2014 – *Lusardi, A., Mitchell, O.* (2014). The Economic Importance of Financial Literacy: Theory and Evidence. *Journal of Economic Literature.* 52(1): 5-44. DOI: http://dx.doi.org/10.1257/jel.52.1.5

Lusardi, Mitchell, 2017 – *Lusardi, A., Mitchell, O.* (2017). Millennials and Financial Literacy: A Global Perspective. Global Financial Literacy Excellence Center, The George Washington University School of Business. [Electronic resource]. URL: https://bit.ly/33Mxnl2

Lusardi, Oggero, 2017 – *Lusardi, A., Oggero, N.* (2017). Millennials and financial Literacy: A global perspective. Global Financial Literacy Excellence Center, May 17. [Electronic resource]. URL: https://gflec.org/research/?item=11051

Lusardi, Yakoboski, 2014 – *Lusardi, A., Yakoboski, P.J.* (2014). College-Educated Millennials: An Overview of Their Personal Finances. TIAA-CREF Institute. [Electronic resource]. URL: https://bit.ly/3ow4leF

Mountain et al., 2020 – *Mountain, T.P., Kim, N., Serido, J. Shim* (2020). Does Type of Financial Learning Matter for Young Adults' Objective Financial Knowledge and Financial Behaviors? A Longitudinal and Mediation Analysis. *Journal of Family and Economic Issues.* 42: 113-132. DOI: https://doi.org/10.1007/s10834-020-09689-6

OECD, 2017 – OECD. G20/OECD INFE report on adult financial literacy in G20 countries. 2017. [Electronic resource]. URL: https://bit.ly/3H8O3l8

OCDE, 2018 – OCDE. OECD/INFE Toolkit for Measuring Financial Literacy and Financial Inclusion. 2018. [Electronic resource]. URL: https://bit.ly/3rcNFfX.

PwC, 2015 – PwC. Millennials & Financial Literacy, The Struggle with Personal Finance. 2015. [Electronic resource]. URL: https://pwc.to/3nWCTZ5

Qamar et al., 2016 – *Qamar, M.A.J., Khemta, M.A.N., Jamil, H.* (2016). How knowledge and financial self-efficacy moderate the relationship between money attitudes and personal financial management behavior. *European Online Journal of Natural and Social Sciences.* 5(2): 296-308.

Saavedra, 2020 – *Saavedra S., N.A.* (2020). Encuesta de inclusión financiera con perspectiva de género [Financial inclusion survey with a gender perspective]. Banco Interamericano de Desarrollo, Sector de Instituciones para el Desarrollo. División de Conectividad, Mercados y Finanzas. IDB-DP-803. [Electronic resource]. URL: https://bit.ly/32AEBIb [in Spanish]

Selvadurai et al., 2018 – *Selvadurai, V., Kenayathulla, H., Siraj, S.* (2018). Financial literacy education and retirement planning in Malaysia. *Malasian Online Journal of Educational Management.* 6(2): 41-66. DOI: https://doi.org/10.22452/mojem.vol6no2.3

Smith, Nichols, 2015 – *Smith, T., Nichols, T.* (2015). Understanding the Millenial generation. *Journal of Business Diversity.* 15(1): 39-47.

Taft et al., 2013 – *Taft, M., Hosein, Z., Mehrizi, S., Roshan A.* (2013). The Relation between Financial Literacy, Financial Wellbeing and Financial Concerns. *International Journal of Business and Management.* 8(11): 63-75.

Valdivia et al., 2017 – *Valdivia, M., Dolores, E., Hernández, M., Salazar, J.* (2017). Análisis de la cultura financiera en los trabajadores del ramo energético en el estado de Veracruz [Financial culture analysis in worker in the energetic sector of the state of Veracruz]. *Revista Iberoamericana de contaduría, economía y administración.* 6(12). DOI: 10.23913/ricea.v6i12.101 [in Spanish]

Villarreal, Macías, 2020 – *Villarreal, H., Macías, A.* (2020). El sistema de pensiones en México: institucionalidad, gasto público y sostenibilidad financiera [The pension system in Mexico: institutionality, public spending and financial sustainability]. Serie Macroeconomía del Desarrollo, N° 210 (LC/TS.2020/70), Santiago, Comisión Económica para América Latina y el Caribe (CEPAL). [Electronic resource]. URL: https://bit.ly/31ADXXc [in Spanish]

Appendix

Survey

The purpose of this survey is to collect information that will help find out your financial literacy level, savings culture, and behavior towards retirement plans. The information provided for this survey is completely confidential and will only be used for research purposes. That is why we

ask for your valuable collaboration to answer some questions, which will not take you long to answer.

Section I. Profile of the respondent
Gender: Male ( ) Female ( )
Age: _____
Schooling (highest degree of study completed):
Elementary ( ), Middle School ( ), High School ( ), Bachelor Degree ( ), Specialty ( ), Master's Degree ( ), Doctorate ( )
Current work status: Studies only ( ) Studies and works ( )
State of birth: _____

Section II. Financial literacy
This section evaluates three important factors for long-term savings such as interest, inflation, and bonds.

AF1. Suppose you have $ 100 in a savings account and the interest rate is 2 % per year. After 5 years, how much do you think you would have in the account if you let the money grow?
a) More than $ 102   b) Exactly $ 102   c) Less than $ 102   d) I don't know
e) I'd rather not say
AF2. Suppose the interest rate on your savings account was 1% per year and inflation was 2 % per year. After 1 year, how much could you buy with the money in this account?
a) More than today   b) Exactly the same   c) Less than today   d) I don't know
e) I'd rather not say
AF3. If interest rates go down, what will normally happen to bond prices?
a) They will increase   b) They will decrease c) They will stay the same   d) There is no relationship between bond prices and interest.   e) I don't know f) I'd rather not say

Section III. Savings culture
In this section the culture of saving is evaluated through a scale. Read the following statement and select the option that you consider appropriate. Mark 1 if the option is Not important until 7 as its importance increases.

	Not important						Important
	1	2	3	4	5	6	7
CA1. If I had money I would save it to buy a property / house / apartment							
CA2. If I had money I would save it to start a business							
CA3. If I had money I would save it for retirement							
CA4. If I had money I would save it for traveling / vacation							
CA5. If I had money I would save it on an investment							
CA6. If I had money I would save it to buy a car/motorcycle							
CA7. Save even if it is little by little							
CA8. Save even if you do not earn enough							
CA9. Spend the money right now							
CA10. Keep financial records							
CA11. Receive a pension							
CA12. Save for old age							

Section IV. Financial behavior regarding retirement savings

CF1. Do you currently have any savings for your retirement?
a) Yes   b) No

CF2. Have you thought about saving for your retirement?
a) Yes   b) No

CF3. How often do you read or learn about savings accounts, investments, loans, and retirement funds?
a) Never   b) Sometimes   c) Always

CF4. At what age do you think a person should start saving to have a good pension?
a) Before 18 years old b) From 18 to 19 years old   c) From 20 to 24 years old   d) From 25 to 29 years old   e) From 30 to 39 years old   f) From 40 onwards

CF5. How much would you be willing to save per month?
a) More than $ 100 pesos   b) Between $ 50 and $ 100 pesos   c) Between $ 10 and $ 49 pesos   d) Nothing