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# High School Students and their Perception of Financial Institutions: An Empirical Study in Xalapa, Veracruz

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#### ABSTRACT

The purpose of this study is to analyze the perception of high school students from Xalapa, Veracruz, towards six variables related to financial education: savings, investments, pensions, credits, debts, expenses and budgets. For the field activity, we designed an instrument and applied it to 401 enrolled students at the moment of the survey. The data were analyzed through exploratory factor analysis. It is concluded that high school students have a positive perception of financial institutions and the products they offer.

KEYWORDS Finance education, perception, financial practices ARTICLE HISTORY Received 20 January 2017 Revised 28 March 2017 Accepted 9 April 2017

#### Introduction

This research stems from a topic of global agenda, based on a report presented in the year 2010 by the G-20 group, where financial inclusion is defined as the access to formal financial services and a basic element for development, stability and progress of families. The World Bank, an active member on the matter, has contributed with different approaches and programs of financial education for low income population around the world. However, Miller (2012) points out that the World Bank aims to achieve a change through financial education on the client's behavior, instead of providing the necessary information.

On the theoretical studies, the seminal Works presented to the OECD on finances state that access to financial and economic education for citizens does

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not assure they can use it to full extend. Parkin, (2004); Bernanke and Frank (2007), argue that a misinformed citizen without basic knowledge of economy or finances cannot make a right decision about consumption, investment or expense, since the information and technical knowledge allows him/her to compare the benefits of each option. According to the OECD (2009), financial education involves a process in which investors and consumers get information on financial products, concepts and risks, enabling the development of skills and confidence to become more aware of the risks and financial opportunities and thus, improve the welfare of the population. Daily financial decisions are made which will impact to a greater or lesser extent the financial situation for the future (García-Santillán and Edel, 2006).

In Mexico, the G-20 proposed the increase of financial inclusion, identifying the barriers that prevent the access and use of attainable financial services, paying special attention to women and young people. From there, great efforts emerged, such as the "First Survey on Mexican Financial Culture", in which many banks, institutions, government agencies and colleges participated; the aim was to identify the level of knowledge and perception of formal and informal financial products and services. The results show that nearly one out of five homes had a record of their expenses and a financial plan for the home, but the priority is to cover the most "immediate" needs (food, health and education) and saving is not a family habit.

Relevant papers about financial education are those by: King and Levine (1993); Levine, Loayza and Beck (2000); Parkin, (2004); Atkinson, McKay, Kempson and Collard. (2006); García-Santillán, Herrera-Santiago and Edel-Navarro (2006); Lusardi and Mitchell (2006, 2011); Gnan, Silgoner and Weber (2007); Hastings and Tejeda Ashton, (2008); Mandell, (2008, 2009); Ruiz, (2011); Miller, (2012); Ramos (2012); Cueva, (2012); Moreno-Garcia, García-Santillán, and Munguia-Tiburcio, (2013); Garcia, Grifoni, Lopez and Mejia (2013); García-Santillán, Escalera-Chávez and Venegas-Martínez (2014). All agree on knowledge and information being essential for financial skills and decision taking.

# **Methods**

From the background discussed above, raises the central question of the study: What is the set of latent variables to know what the perception of high school student is in terms of: Investment, Savings, Credit, Insurance and Pensions, Expenses and Budget? The aim is to identify the set of variables that forms a structure to understand the perception of students on Investment, Savings, Credit, Insurance and Pensions, Expenses and Budget. Also, it is sought to test the hypothesis:

H<sub>0</sub>: There is no set of variables that form a structure to understand the perception of students on Investment, Savings, Credit, Insurance and Pensions, Expenses and Budget

Ha. There is a set of variables that form a structure to understand the perception of students on Investment, Savings, Credit, Insurance and Pensions, Expenses and Budget.

The study is a non-experimental design, since there is no manipulation of the variables. It has the shape of a cross-section as the data collection takes place in a single moment for measuring, being these the days before the end of January-June 2015 of the school year. The study seeks to understand the perception to the dimensions of the Financial Education Variable which are: Investment (VI1), Pensions (VI2), Credit (VI3), saving (VI4) Debt (VI5), Expenses and Budgets (VI6).

The target population for this study is active students during the period January to June 2015 in the high schools of the region of Xalapa, the capital of Veracruz. The type of sample is probabilistic (random-simple-stratified) as it has the role of high schools in the regions selected for the study. The total population of 4,185 students, the calculation of the sample gives 352 cases, having surveyed 401 in total. The statistical procedure consisted of an exploratory factor analysis. To validate the relevance of the factor analysis, the Bartlett test of sphericity, with KMO, and Chi square goodness test of fit X2 with significance  $\alpha = 0.01$  is calculated. The decision criteria for the hypothesis test are: reject Ho if X2c> X2T, (p < 0.01).

# **Results and Discussion**

The following table shows the descriptive statistics: mean standard deviation and the coefficient of variation in order to identify the variation of each of the instrument items.

ť.	м	Standar	N	Coefficient of variation
Ítem	Mean	Deviation	Ν	CV=media/SD
INVES01	3.122200	1.008730	401	3.0951791
INVES02	3.039900	1.156890	401	2.6276483
INVES03	3.010000	1.017300	401	2.9588125
SAV06	3.246900	1.204740	401	2.6951043
SAV07	3.109700	1.130460	401	2.7508271
SAV08	3.007500	1.038000	401	2.8973988
SAV09	3.147100	1.142720	401	2.7540430
CREDI11	2.927700	1.239860	401	2.3613150
CREDI12	2.932700	1.047830	401	2.7988319
CREDI13	2.880300	1.027440	401	2.8033754
CREDI14	2.862800	1.021590	401	2.8022984
CREDI15	2.960100	1.097000	401	2.6983592
CREDI16	2.837900	1.158080	401	2.4505216
INSUR19	2.922700	1.147390	401	2.5472594
INSUR20	2.832900	0.994740	401	2.8478798
INSUR21	2.860300	1.005210	401	2.8454751
INSUR22	3.089800	1.121120	401	2.7559940
INSUR23	3.528700	1.358230	401	2.5980136
INSUR24	3.690800	1.331970	401	2.7709333
INSUR25	3.231900	1.163430	401	2.7779067
INSUR26	3.024900	1.111030	401	2.7226088
INSUR27	3.082300	1.147040	401	2.6871774
INSUR28	3.264300	1.401770	401	2.3286987
INSUR29	3.137200	1.057660	401	2.9661706
INSUR30	3.578600	1.365440	401	2.6208402

# Table 1. Descriptive Statistics

Source: own

Based on the results of Table 1, we can see that the item INVER01 presents the most variation and GASPRE28 item has less variation. To justify Factor Analysis as an appropriate technique to develop this empirical study, KMO calculation, the Bartllet test of Sphericity and X2 were applied (Table 2).

Table 2. KMO and Bartlett's test of sphericity

Kaiser-Meyer-Olkin Sampling A	dequacy	0.907
Bartlett's Sphericity Test	Approximate Chi-squared Df	3189.513 300
	Sig.	.000

### Source: own

The criteria provide that the low KMO (<0.5) indicates that the crosscorrelation between the variables is not large and a Factorial Analysis would be impractical. However, a KMO> 0.5 value indicates a significant correlation level and therefore, the use of a Factor Analysis is convenient and useful. The result of 0.907 (reported in Table 7) and the value of X2 300 gl. 3189,513 ff. = 0.00 is enough to confirm the use of factor analysis evidence, and considering the decision criterion X2c> X2T, (p <0.01) ao there is significant evidence to reject H<sub>0</sub>.

Next is the procedure for the calculation of correlations, commonalities, measures of sampling adequacy for variable, saturations and explained variance (Table 3)

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# Table 3. Matrix correlations

										Т	abla 8.	Matri	z de co	rrelaci	ones											
		INVER01	INVEROS	INVEDO2	ALIOPOS	AUOP07	ALIODOR	AUOPOO	CREDI11	CREDU2	CREDI13	CREDI14	CREDI15	CREDI16	10	GUPEN	SEGUPEN	SEGUPEN 22	SEGUPEN	SEGUPEN 24	SEGUPEN	SEGUPEN	SEGUPEN 27	CASPRESS	CASEPETO	GASPREN
Correlación	INVER01	1.000	.257	.330	.298	.172	.164	.119	.183	.178	.087	.133	.133	.139	.162	.232	.207	.220	.234	.268	.210	.220	.229	.265	.251	.221
	INVER02	.257	1.000	.331	.163	.253	.220	.162	.112	.254	.168	.212	.218	.126	.100	.086	.108	.117	.197	.200	.238	.220	.116	.052	.167	.161
	INVER03	.330	.331	1.000	.165	.233	.265	.182	.183	.158	.183	.237	.260	.197	.157	.207	.207	.161	.135	.211	.161	.201	.233	.142	.189	.190
	AHOR06	.298	.163	.165	1.000	.413	.426	.264	.432	.285	.333	.216	.219	.210	.309	.287	.270	.270	.337	.319	.277	.248	.316	.331	.283	.325
	AHOR07	.172	.253	.212	.413	1.000	.372	.340	.370	.281	.356	.232	.233	.239	.284	.230	.306	.270	.239	.169	.264	.240	.242	.150	.328	.177
	AHOR08	.164	.220	.265	.426	.372	1.000	.309	.379	.357	.308	.256	.305	.282	.315	.314	.305	.292	.293	.258	.204	.262	.340	.262	.247	.226
	AHOR09	.119	.162	.182	.264	.340	.309	1.000	.394	.317	.279	.358	.318	.313	.295	.308	.262	.353	.236	.191	.268	.289	.231	.163	.258	.165
	CREDI11	.183	.112	.183	.432	.370	.379	.394	1.000	.427	.417	.334	.252	.283	.205	.300	.315	.422	.323	.294	.263	.209	.300	.103	.265	.273
	CREDI12	.178	.254	.158	.285	.281	.357	.317	.427	1.000	.434	.374	.274	.316	.205	.275	.295	.337	.153	.121	.203	.233	.250	.111	.205	.125
	CREDI13	.087	.168	.183	.333	.356	.308	.279	.417	.434	1.000	.432	.382	.349	.210	.293	.407	.318	.155	.117	.202	.290	.288	.067	.225	.123
	CREDI14	.133	.212	.185	.216	.232	.256	.358	.334	.434	.432	1.000	.382	.349	.270	.3293	.407	.266	.137	.107	.235	.305	.249	.123	.290	.123
	CREDI15	.133	.212	.260	.210	.232	.305	.318	.252	.274	.452	.290	1.000	.341	.250	.329	.283	.200	.179	.107	.207	.303	.191	.125	.210	.099
	CREDI16	.135	.126	.197	.219	.235	.303	.313	.232	.274	.349	.290	.341	1.000	.166	.410	.203	.285	.190	.061	.207	.203	.191	.019	.255	.099
	SEGUPEN 19	.159	.120		.210			.295			.349	.255	.341				.305	.339	.323		.345	.203				.298
1	SEGUPEN 20	.102	.100	.157	.309	.284	.315	.295	.265	.216	.270	.235	.230	.166	1.000	.354	.340	.547	.525	.274	.353	.238	.351	.347	.258	.174
	SEGUPEN21	.232	.1080	.207	.287	.230	.305	.308	.315	.275	.407	.329	.283	.410	.346	.337	1.000	.410	.195	.169	.353	.280	.390	.195	.336	.174
1	SEGUPEN22	.207	.108	.161	.270	.300	.303	.202	.313	.295	.407	.322	.283	.305	.340	.557	.320	.520	.205	.109	.232	.285	.542	.115	.318	.196
	SEGUPEN23	.220	.117	.135	.337	.204	.292	.236	.323	.153	.157	.179	.190	.110	.347	.193	.203	.235	1.000	.657	.311	.225	.420	.461	.256	.515
	SEGUPEN24	.234	.197	.135	.319	.169	.293	.191	.323	.133	.137	.179	.190	.061	.323	.193	.169	.235	.657	1.000	.303	.223	.277	.401	.230	.515
	SEGUPEN25	.208	.211	.161	.319	.109	.238	.191	.294	.121	.270	.235	.207	.217	.274	.353	.109	.231	.057	.303	1.000	.204	.292	.246	.238	.298
	SEGUPEN26	.210	.238	.208	.217	.204	.293	.208	.203	.202	.270	.235	.302	.203	.345	.333	.232	.335	.225	.303	.400	1.000	.373	.240	.369	.350
	SEGUPEN27	.220		.208			.202		.208	.255			.191			.280			.225	.204		.438			.309	.287
	GASPRE28	.229	.116	.142	.316	.242	.340	.231	.300	.230	.288	.249	.191	.270	.351 .347	.398	.342	.420	.461	.292	.373	.458	1.000	.279	.306	.287
	GASPRE29	.203	.167	.142	.283	.150	.202	.105	.299	.225	.007	.125	.100	.255	.258	.195	.336	.204	.401	.238	.240	.207	.279	.306	1.000	.362
	GASPRE30	.221	.161	.109	.205	.177	.247	.165	.203	.125	.1230	.147	.099	.072	.238	.174	.196	.222	.515	.510	.298	.350	.287	.640	.362	1.000
Sig.	INVER01	.221	.000	.000	.000	.000	.000	.009	.000	.000	.042	.004	.099	.072	.001	.000	.000	.000	.000	.000	.000	.000	.000	.040	.000	.000
(unilateral)	INVER02	.000	.000	.000	.000	.000	.000	.009	.000	.000	.042	.004	.004	.005	.001	.000	.000	.000	.000	.000	.000	.000	.000	.149	.000	.000
	INVER03	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.022	.000	.000	.001	.000	.000	.000	.000	.000	.002	.000	.000
	AHOR06	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.002	.000	.000
	AHOR07	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.001	.000	.000
	AHOR08	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
	AHOR09	.000	.001	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.001	.000	.000
	CREDI11	.000	.013	.000	.000	.000	.000	.000		.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
	CREDI12	.000	.000	.001	.000	.000	.000	.000	.000		.000	.000	.000	.000	.000	.000	.000	.000	.001	.008	.000	.000	.000	.013	.000	.006
	CREDI13	.042	.000	.000	.000	.000	.000	.000	.000	.000		.000	.000	.000	.000	.000	.000	.000	.001	.009	.000	.000	.000	.090	.000	.007
	CREDI14	.004	.000	.000	.000	.000	.000	.000	.000	.000	.000		.000	.000	.000	.000	.000	.000	.000	.016	.000	.000	.000	.007	.000	.002
	CREDI15	.004	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000		.000	.000	.000	.000	.000	.000	.011	.000	.000	.000	.017	.000	.024
	CREDI16	.003	.006	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000		.000	.000	.000	.000	.014	.110	.000	.000	.000	.354	.000	.075
	SEGUPEN 19	.001	.022	.001	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000		.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
	SEGUPEN20	.000	.042	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000		.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
	SEGUPEN21	.000	.015	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000		.000	.000	.000	.000	.000	.000	.012	.000	.000
	SEGUPEN22	.000	.010	.001	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000		.000	.000	.000	.000	.000	.000	.000	.000
	SEGUPEN23	.000	.000	.003	.000	.000	.000	.000	.000	.001	.001	.000	.000	.014	.000	.000	.000	.000		.000	.000	.000	.000	.000	.000	.000
	SEGUPEN24	.000	.000	.000	.000	.000	.000	.000	.000	.008	.009	.016	.011	.110	.000	.000	.000	.000	.000		.000	.000	.000	.000	.000	.000
	SEGUPEN25	.000	.000	.001	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000		.000	.000	.000	.000	.000
	SEGUPEN26	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000		.000	.000	.000	.000
	SEGUPEN27	.000	.010	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000		.000	.000	.000
	GASPRE28	.000	.149	.002	.000	.001	.000	.001	.000	.013	.090	.007	.017	.354	.000	.000	.012	.000	.000	.000	.000	.000	.000		.000	.000
	GASPRE29	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000		.000
	GASPRE30	.000	.001	.000	.000	.000	.000	.000	.000	.006	.007	.002	.024	.075	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	
a. Deter	minante = .000																									
]	Fuente: propia	1																								

The above table allows us to observe significant correlations in all cases, since the value of the determinant is 0,000 which means that the closer to zero is evidence that all variables are correlated. The values obtained from the measurement sample adequacy (MSA) are shown in Table 4; the values are very significant in all cases (> 5).

Table 4.	Correlation	matrix	anti-image

mem         Num         No         No        No        No         No<			INVER01	INVER02	INVER03	AHOR06	AHOR07	AHOR08	AHOR09	CREDIII	CREDI12	CREDI13	CREDI14	CREDU5	CRED116	SEGUPEN 19	SEGUPEN 20	SEGUPEN 21	SEGUPEN 22	SEGUPEN 23	SEGUPEN 24	SEGUPEN 25	SEGUPEN 26	SEGUPEN 27	GASPRF28	GASPRE29	GASPRESO
Import         Import         275         1.51         0.07        0.07        0.07 <t< th=""><th>Covarianza</th><th>INVER01</th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th>-</th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th>.040</th></t<>	Covarianza	INVER01														-											.040
No.         No. <td>anti-imagen</td> <th>INVER02</th> <td></td> <td>02</td>	anti-imagen	INVER02																									02
No.         No. <td></td> <th>INVER03</th> <td></td> <td>04</td>		INVER03																									04
mate         mate <th< th=""><th></th><th>AHOR06</th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th>04</th></th<>		AHOR06																									04
mame         0.03         -0.00         -0.07         -0.16         -0.07         -0.01         0.01         0.02         -0.02         0.02         -0.02         0.02		AHOR07																									.02
No.         No. <td></td> <th>AHOR08</th> <td></td> <td>.02</td>		AHOR08																									.02
nume         num		AHOR09																									.024
Image         Obde         Single         Obde         Single         Single         Obde         Single		CREDIII																									01
Other         Other <th< th=""><td></td><th>CREDI12</th><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>01</td></th<>		CREDI12																									01
Image         Image <th< th=""><td></td><th></th><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>.00.</td></th<>																											.00.
Image         Image <th< th=""><td></td><th>CREDI14</th><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>.00</td></th<>		CREDI14																									.00
Image         Image <th< th=""><th></th><th>CREDI15</th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th>.00</th></th<>		CREDI15																									.00
Norm         Op         Op<		CREDI16																									01
Normal         Add         Addd         Add         Add         Add		SEGUPEN 19																									01
Normal         Ord         Ord<		SEGUPEN20																									.02
Normal         Construct         C		SEGUPEN21																									03
Normal         Out         Out<		SEGUPEN22																									.02
NUMBE         Q.22         Q.65         Q.22         Q.65         Q.02         Q.07         Q.03         Q.07         Q.03         Q.07         Q.03         Q.07         Q.03         Q.07         Q.07 </th <td></td> <th>SEGUPEN23</th> <td></td> <td>02</td>		SEGUPEN23																									02
Normal         Outs         <		SEGUPEN24																									04
NOTING         OLD         OLD<		SEGUPEN25																									04
Server         OO2         OO5         OO3         OO3 <tho3< th=""> <tho3< th=""></tho3<></tho3<>		SEGUPEN26																									02
Current         Constrain         Constrain <thc< th=""><td></td><th>SEGUPEN27</th><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>08</td></thc<>		SEGUPEN27																									08
Current         Constrain         Constrain <thc< th=""><td></td><th>GASPRE28</th><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>20</td></thc<>		GASPRE28																									20
curstep         0.40         0.26         0.48         0.38         0.25         0.28         0.18         0.01         0.02         0.09         0.06         0.02         0.01         0.02         0.03         0.01         0.01         0.03         0.03         0.01         0.08         0.03         0.03         0.03         0.03         0.03         0.03         0.03         0.03         0.01         0.08         0.03         0.03         0.01         0.08         0.01         0.03         0.03         0.01         0.03         0.03         0.01         0.01         0.03         0.03         0.01         0.01         0.03         0.03         0.01         0.01         0.03         0.03         0.03         0.03         0.03         0.03         0.01         0.01         0.03         0.03         0.01         0.03         0.03         0.01         0.03         0.01         0.01         0.03         0.01         0.01         0.03         0.01         0.01         0.03         0.01         0.01         0.03         0.01         0.01         0.03         0.01         0.01         0.01         0.01         0.01         0.01         0.01         0.01         0.01         0.01        <		GASPRE29																									084
Number         Normal         8.59         1.12         2.30         1.17         0.18         0.92         0.15         0.06         1.08         0.23         0.23         0.23         0.21         0.21         0.23         0.23         0.23         0.23         0.23         0.21         0.23         0.23         0.21         0.23         0.23         0.23         0.23         0.23         0.23         0.21         0.23         0.23         0.21         0.23         0.23         0.21         0.23         0.23         0.21         0.23         0.23         0.23         0.23         0.23         0.23         0.21         0.23		GASPRE30																									08
Number         1.12         8.12         2.07         0.10         1.24         0.05         0.11         0.07         0.01         0.01         0.01         0.04         0.09         0.11         0.13         0.03         0.01         0.01         0.04         0.09         0.11         0.13         0.03         0.01         <	Correlación	INVER01																									.470
NVNR00	anti-imagen	INVER02																									
-2.50         -3.63         -0.70         -3.63         -0.70         -1.55         -0.70 <th< th=""><td></td><th>INVER03</th><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>045</td></th<>		INVER03																									045
Allow         Old         Old </th <td></td> <th></th> <td></td> <td>081</td>																											081
0.18         1.14         -1.03         0.11         -1.02         1.01         0.10         0.10         0.10         0.10         0.10         0.10         0.10         0.10         0.10         0.10         0.10         0.10         0.10         0.00         0.10         0.00         <																											072
1002        180        110        180        110        100        001        002        003        004        003        004        003        004        003        004        003        004        003        004        003        003        003        003        003        003        003        003        003        003        003        003        004        003        004        005        013        003        003        004        015        015        017        015        015        017        016        011        013        003        014        013        013        003        014        014        019        018        014        015        017        016        011        010        015        011        010        010        010        010        010        010        010        010        010        010        010        010        011        011        010        011        011        010        011        010        010        010				124	053	197	.921 <sup>a</sup>	110	122	104	.011				017	076			005			024		.040			.044
CREEDII         O.154         O.157         O.179         O.101         O.122         O.154         O.155         O.122         O.154         O.15         O.052         O.151         O.057         O.150         O.022         O.151         O.057         O.022         O.151         O.021         O.011         O.015         O.021         O.015         O.025         O.015         O.021         O.015         O.022         O.015         O.021         O.015         O.021         O.017         O.016         O.017         O.017         O.016         O.017         O.017 <t< th=""><td></td><th></th><td>.092</td><td>058</td><td>112</td><td>186</td><td>110</td><td>.940<sup>a</sup></td><td>034</td><td>058</td><td>134</td><td>.021</td><td>.027</td><td>082</td><td>059</td><td>045</td><td>042</td><td>059</td><td>.021</td><td>052</td><td>003</td><td>044</td><td>.003</td><td>090</td><td>091</td><td>.038</td><td>.052</td></t<>			.092	058	112	186	110	.940 <sup>a</sup>	034	058	134	.021	.027	082	059	045	042	059	.021	052	003	044	.003	090	091	.038	.052
CREENI2         0.06         0.15         0.02         0.15         0.02         0.05         0.02         0.05         0.06         0.05         0.05         0.05         0.06         0.05			.054	.013	019	001	122	034	.936 <sup>a</sup>	148	059	.080	145	098	084	080	026	.011	099	038	021	048	081	.063	.025	038	.032
CREEDIIS         0.000         1.17         1.072         1.000         1.011         1.012         1.012         1.010         1.010         1.001         1.001         1.000         1.002         1.010         0.018         0.011         0.010         <		CREDIII	.015	.085	022	154	104	058	148	.925 <sup>a</sup>	182	146	067	.015	002	.085	032	035	173	054	054	027	.105	003	084	.031	029
Inimite         1.08         1.08         -1.08         1.018         -1.08         1.012         1.030         1.012         1.030         1.012         1.030         1.012         1.030         1.012         1.030         1.012         1.030         1.012         1.030         1.012         1.030         1.012         1.030         1.012         1.013         0.014         0.005         0.014         0.01         0.015         0.01         0.015         0.01         0.015         0.01         0.015         0.01         0.015         0.01         0.01<		CREDI12	066	157	.072	007	.011	134	059	182	.923 <sup>a</sup>	174	120	007	064	.001	004	025	080	.033	.029	.037	.007	016	.017	.002	.003
CREENING         -0.03         1.02         0.04         0.03         -0.04 <th< th=""><td></td><th>CREDI13</th><td>.108</td><td>.018</td><td>008</td><td>112</td><td>098</td><td>.021</td><td>.080</td><td>146</td><td>174</td><td>.909<sup>a</sup></td><td>199</td><td>168</td><td>069</td><td>037</td><td>.035</td><td>147</td><td>027</td><td>.032</td><td>011</td><td>062</td><td>042</td><td>021</td><td>.089</td><td>071</td><td>.018</td></th<>		CREDI13	.108	.018	008	112	098	.021	.080	146	174	.909 <sup>a</sup>	199	168	069	037	.035	147	027	.032	011	062	042	021	.089	071	.018
CREMUS         0.028         -0.70         1.129         -0.09         0.46         -0.82         -0.98         0.15         -0.07         -1.68         0.05         909*         -1.32         -0.62         -0.54         -0.37         -0.43         -0.10         0.06         0.28         -1.38         1.01         -0.25         -0.05         -0.13           SECUPENI         0.037         0.31         0.03         -0.02         -0.07         0.085         0.01         -0.03         -0.05         0.01         0.050         -0.26         0.09         -0.04         0.05         -0.05         0.01         0.050         -0.26         0.09         -0.01         0.05         -0.05         0.01         0.037         0.03         0.03         0.03         -0.02         -0.05         0.01         0.037         0.03         0.02         0.037         0.043         0.01         0.03         0.01         0.03         0.01         0.037         0.04         0.047         0.03         0.01         0.01         0.01         0.01         0.01         0.01         0.01         0.01         0.01         0.01         0.01         0.01         0.01         0.01         0.01         0.01         0.01		CREDI14	.023	076	093	.028	.049	.027	145	067	120	199	.918 <sup>a</sup>	.005	084	043	107	074	.045	066	.094	.009	110	.008	038	.038	.010
CREDID:         -0.13         0.18         -0.36         -0.02         -0.17         -0.59         -0.84         -0.02         -0.64         -0.69         -0.84         -1.12         921*         0.89         -2.06         -0.77         -1.11         -0.10         0.50         -0.26         -0.49         -0.44         -0.05         -0.26         -0.49         -0.44         -0.05         -0.26         -0.49         -0.44         -0.05         -0.26         -0.49         -0.44         -0.05         -0.26         -0.49         -0.44         -0.05         -0.26         -0.49         -0.44         -0.05         -0.26         -0.27         -0.43         -0.62         -0.89         929*         -1.20         -1.10         -1.10         -0.10         -0.27         -0.49         -0.44         -0.04         -0.05         -0.07         -0.41         -0.07         -0.37         -0.02         -0.04         -0.05         -0.07         -0.11         -0.07         -0.03         -0.07         -0.03         -0.07         -0.03         -0.07         -0.03         -0.07         -0.03         -0.07         -0.03         -0.07         -0.03         -0.01         -0.09         -0.04         -0.04         -0.04         -0.04         -0		CREDI15		- 070		- 009	046											- 037	- 043		066						.090
SECUPENVI       0.037       0.031       0.032       0.042       0.045       0.080       0.085       0.01       0.037       0.043       0.062       0.089       929*       1.20       1.103       1.013       0.021       0.127       0.049       0.083       1.11       0.043       1.02         SECUPENVI       0.081       0.021       0.037       0.037       0.037       0.042       0.020       0.020       0.011       0.06       0.011       0.06       0.011       0.005       0.011       0.014       0.011       0.010       0.011       0.010       0.011       0.011       0.010       0.011		CREDI16																									02
SECUPENS:         -0.71         0.89         -0.21         -0.37         0.37         0.42         -0.26         -0.32         -0.04         0.35         -1.07         -0.26         -1.20         929*         -0.47         -1.29         0.66         -0.77         -1.41         0.17         -0.16         0.11         -0.16         0.11         -0.16         0.11         -0.16         0.11         -0.16         0.11         -0.16         0.11         -0.16         0.11         -0.16         0.11         -0.16         0.11         -0.16         0.11         -0.16         0.11         -0.16         0.11         -0.16         0.11         -0.16         0.11         -0.16         0.11         -0.16         0.11         -0.16         0.11         -0.16         0.11         -0.16         0.11         -0.16         -0.11         -0.16         -0.17         -0.16         -0.11         -0.16         -0.11         -0.16         -0.11         -0.16         -0.11         -0.16         -0.11         -0.16         -0.11         -0.16         -0.11         -0.16         -0.11         -0.16         -0.11         -0.16         -0.11         -0.16         -0.11         -0.16         -0.11         -0.16         -0.11 <t< th=""><td></td><th>SEGUPEN 19</th><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>020</td></t<>		SEGUPEN 19																									020
SECUPENCI       -0.88       .0.81       -0.27       .0.13       .0.62       .0.59       .0.11       .0.35       .0.25       .1.47       .0.47       .0.47       .0.40 <sup>2</sup> .0.34       .0.10       .0.09       .0.14       .0.29       .0.70       .1.30       .1.07          SECUPENCI       .0.56       .0.01       .0.45       .0.53       .0.05       .0.01       .0.99       .1.73       .0.80       .0.27       .0.45       .0.10       .0.99       .0.95       .0.10       .0.05       .0.05       .0.01       .0.55       .0.01       .0.52       .0.38       .0.29       .0.11       .0.10       .0.10       .0.09       .859 <sup>3</sup> .0.42       .0.45       .0.10       .0.09       .0.45       .0.33       .0.05       .0.11       .0.03       .0.10       .0.09       .859 <sup>3</sup> .0.42       .0.47       .0.33       .0.00       .0.05       .0.10       .0.05       .0.10       .0.03       .0.11       .0.33       .0.20       .0.11       .0.04       .0.05       .0.00       .0.04       .0.04       .0.00       .0.04       .0.05       .0.01       .0.01       .0.03       .0.01       .0.03       .0.01       .0.01       .0.01       .0.01       .0.01 <td></td> <th>SEGUPEN20</th> <td></td>		SEGUPEN20																									
SECUPPOS:       -0.03       -0.04		SEGUPEN21																									.04
-0.00 1.001 1.043 1.003 1.001 1.043 1.003 1.001 1.043 1.003 1.001 1.043 1.003 1.001 1.044 1.080 1.009 1.010																											063
-0.41       -0.44       -0.44       -0.44       -0.45       -0.52       -0.53       1.05       1.05       1.05       1.05       -0.05       1.00       -0.55       1.00																											.04
SECUPENS      0.03      0.93      0.93      0.41       .0.06      0.02      0.11       .0.94       .0.06       .0.05       .0.02      0.77      0.06      4.82       .8.59      0.47      0.89      0.47      0.89      0.06      4.82       .8.59      0.47      0.89      0.47      0.89      0.42      0.47      0.89      0.06      4.82       .8.59      0.47      0.89      0.06      4.82       .8.59      0.47      0.89      0.42      0.47      0.89      0.08      0.42      0.44      0.89      0.41      0.44      0.89      0.12       .0.11       .0.94       .0.08       .0.02      0.17      0.10      0.18       .0.03       .0.13       .0.39       0.16       .0.44       .0.88       .0.07       .0.26      0.26       .1.10       0.18       .0.03       .0.03       .0.03       .0.03       .0.03       .0.03       .0.03       .0.03       .0.03       .0.03       .0.03       .0.03       .0.03       .0.01       .0.01       .0.08       .0.01       .0.04       .0.08       .0.06       .0.07       .0.03       .0.03       .0.03       .0.03																											198
-0.53 - 1.10 1.54 1.04 - 0.24 - 0.44 - 0.48 - 0.27 1.37 - 0.62 1.09 1.28 - 0.26 - 1.27 - 1.41 1.01 1.07 - 0.58 - 0.42 940 - 1.72 - 1.05 1.01 - 0.41 - 1.4 SECURPENT -0.03 0.83 -0.94 - 0.56 0.40 0.90 0.63 0.03 - 0.81 1.05 0.07 - 0.42 - 1.10 - 1.38 0.49 0.49 0.17 - 0.29 0.95 1.01 0.47 1.72 9.04 2.26 0.18 0.33 - 1.22 1.2 SECURPENT -0.03 0.83 -0.94 - 0.56 0.40 0.90 0.63 0.03 -0.16 -0.21 0.08 1.10 0.44 0.88 -0.25 1.00 - 1.51 0.11 1.30 1.06 0.70 1.65 0.35 0.39 1.05 2.26 927 0.03 0.3 0.12 0.01 0.42 0.41 0.52 0.42 0.41 0.52 0.42 0.41 0.52 0.42 0.41 0.52 0.42 0.41 0.52 0.42 0.41 0.52 0.41 0.52 0.41 0.51 0.41 0.44 0.48 0.40 0.40 0.40 0.40 0.40 0.40			037	090	095	041	.066	003	021	054	.029	011	.094	.066	.050	.020	077	009	006	482	.859 <sup>a</sup>	042	047	039	162	.036	09
- 0.50 - 1.53 0.59 0.16 - 0.43 0.05 - 0.81 0.07 - 0.42 - 110 - 1.88 0.49 0.49 0.17 - 0.29 0.95 1.01 - 0.47 - 1.72 0.94 - 2.26 - 0.18 0.83 - 0.85 - 0.85 0.45 0.45 0.45 0.45 0.45 0.45 0.45 0.4			035	110	.054	.004	024	044	048	027	.037	062	.009	.028	026	127	141	.014	.070	058	042	.940 <sup>a</sup>	172	105	.016	041	04
-0.05 1.05 1.05 1.05 1.05 1.05 1.05 1.05		SEGUPEN26	030	133	.039	.016	043	.003	081	.105	.007	042	110	138	.049	.049	.017	029	095	.101	047	172	.904 <sup>a</sup>	226	018	083	16
GASPREZS      117       .137       .016      060       .034      091       .025      084       .017       .089      038      025       .100      110       .130      108      033      162       .016      018      008      08      048      091       .025      084       .017       .089      038      025       .100      110       .101       .108      008      018      003      628      017      091      02      011      002      011      101      101      108      033      162      016      018      003      642      017      038      020      17      038      050      17      011      101      011      004      016      018      003      162      014      033      162      016      018      011		SEGUPEN27	003	.083	094	056	.040	090	.063	003	016	021	.008	.101	044	083	106	070	165	035	039	105	226	.927 <sup>a</sup>	003	122	.01
CASSPRESS         -0.78         -0.713         0.017         0.009         -1.41         0.38         -0.38         0.01         0.02         -0.71         0.38         -0.55         -0.50         0.43         -0.76         -1.07         -0.34         0.06         -0.36         -0.41         -0.83         -1.22         -0.80 <b>9.43<sup>a</sup></b> -           CASSPRESS         0.68         -0.45         -0.81         -0.72         0.44         0.52         0.32         -0.29         0.03         0.18         0.10         0.90         -0.21         -0.20         0.44         -0.63         0.45        198        094        041        160         0.19        438        150         .8           Medidas de adecuación de muestreo (MSA)         -         -         -         0.20         0.44        063         0.45        198        041        160         0.19        438        150         .8		GASPRE28			.016		.034					.089											018				43
CASTREE® .068 -045 -081 -072 .044 .052 .032 -029 .003 .018 .010 .090 -021 -020 .044 -0.63 .045198094041160 .019438150 .8		GASPRE29																									15
Medidas de adecuación de muestreo (MSA)		GASPRE30																									
	Medido	e de adecraa	.000	1010		072	.044	.032	.032	029	.005	.018	.010	.090	021	020	.044	003	.043	198	094	041	100	.019	438	150	.059
					)																						

The anti-image matrix shows the values obtained from the measure of the adequacy of the sample (> 5) again add weight and justify the application of factor analysis as a procedure which identifies the variables that make up a latent structure. As seen in Table 9, all variables are above the diagonal> 0.5 the minimum and maximum values  $.812^a$  943<sup>a</sup> are near the unity.

In the extraction factor, the factor loads are expressed in the commonalities (proportion of variance), which represents the sum of the squares

of the entire factor loads that each reagent has. Table 5 shows the commonalities of each item, and then analyze the criterion of own value >1, and obtain the percentage of the total variance that these components account for the phenomenon being studied.

Ítem	Extraction	
INVES01	.395	
INVES02	.647	
INVES03	.510	
SAV06	.481	
SAV07	.416	
SAV08	.432	
SAV09	.374	
CREDI11	.595	
CREDI12	.474	
CREDI13	.516	
CREDI14	.387	
CREDI15	.357	
CREDI16	.429	
INSUR19	.397	
INSUR20	.504	
INSUR21	.390	
INSUR22	.460	
INSUR23	.613	
INSUR24	.632	
INSUR25	.384	
INSUR26	.491	
INSUR27	.536	
INSUR28	.650	
INSUR29	.406	
INSUR30	.633	

Table 5. Commonalities (proportion of variance)

Extraction method: Analysis of main components

The values shown in Table 5 called Commonalities; represent the variance explained by the common factors and these will vary between 0 and 1; zero values indicate that factors explain the variable in short and 1 fully explains the variability of the factors. Factor analysis with Varimax rotation with Kaiser Normalization obtains 4 components. Table 6 shows that is the first component, which has the highest burden of items (8), second (5), third (4) and fourth (3).

In the total explained variance, the factors obtained explaining a 48,444% of the total variability of the items. It can be seen that the component that most explains the variance with 15.261% is the first. Now we can see how each of the remaining three components contribute to the explanation of variance: the second (5 items) 13.062%, third (4 items) 12,877% and fourth (3 items) 7.245%.

Ítems	Component			
	1	2	3	4
CREDI11	.681			
CREDI12	.660			
CREDI13	.651			
SAV07	.578			
SAV08	.554			
SAV09	.539			
SAV06	.518			
CREDI14	.504			
INSUR27		.670		
INSUR20		.644		
INSUR26		.574		
INSUR22		.542		
INSUR29		.535		
INSUR28			.776	
INSUR24			.758	
INSUR30			.748	
INSUR23			.740	
INVES02				.771
INVES03				.674
INVES01				.526
Extraction met	thod: Analysis of main	components. Ro	otation metho	d: Varimax with
Kaizer normali		-		
a. The rotati	on has converged in 7 in	teractions.		

#### Table 6. Matrix component rotated

#### Table 7. Total variance explained

		Initial Eigen	nvalues	Extraction Sums of Squared Loadings						
						% Cumula				
Component Total % of V		% of Variance	% Cumulative	Total	% of Variance	tive				
1	7.363	29.453	29.453	3.815	15.261	15.261				
2	2.227	8.908	38.360	3.265	13.062	28.322				
3	1.331	5.323	43.683	3.219	12.877	41.199				
4	1.190	4.761	48.444	1.811	7.245	48.444				

Extraction method: Analysis of main components.

The interpretation of the factors explaining the student's perception towards the topics of financial education, specifically for financial institutions and products they offer, are:

Factor I: The first factor measures the student's perception towards credit and savings and is explained by the reagents: CREDI11 (.681), CREDI12 (.660), CREDI13 (.651), AHOR07 (.578), AHOR08 (.554), AHOR09 (.539), AHOR06 (.518), CREDI14 (.504). It is clear that student perceived favorably how accessible it is to get a credit in financial institutions and believe that they meet the requirements applying for financial institutions in granting personal loans, credit cards, mortgages, car loans, all this is very accessible and easy.

In terms of savings, they perceive that banks have adapted to the needs of the client and that the information they provide is clear and accurate. Likewise, they consider that the requirements to open a savings account are very accessible, as well as to obtain a credit for SME or microcredit. The former means that financial institutions have succeeded in offering attainable products to the public in general and specifically for mid-senior level students. The perception is also good in credit, which is a fundamental step for their inclusion to financial services and products.

Factor II: This second factor measures the student's perception towards insurance and pensions as well as spending and budget, and is explained by the reagents: SEGUPEN27 (.670), SEGUPEN20 (.644), SEGUPEN26 (.574), SEGUPEN22 (542), GASPRE29 (535). The students perceive positively the information provided by pension institutions like Afores, considering that it is clear and accurate, also the information of the fees clear.

Also, students have had closer ties with insurers and apparently have had some experience to test their coverage needs. This might be due to car, medical or other insurance and a logical explanation could be that educational institutions have hired some insurance for students to cover major medical expenses and therefore, an insurance company could have explained the operation to the students. Let's also recall that the issue of insurance and pensions has already been included in social security matters in the curricula of high school and if the student receives pension products favorably, he/she is more likely to manage their productive years as necessary to shore up its social security to a favorable scenario for future withdrawal from job.

Factor III: This third factor extracted variance to explain the student's perception towards expenses and budgets, as well as insurance and pensions, which is explained by the reagents: GASPRE28 (.776), SEGUPEN24 (.758), GASPRE30 (. 748), SEGUPEN23 (740) this factor is a very important fact to note, and it is precisely that students perceive as important and useful to have a budget to manage their resources. They are also aware that having life and health insurance is very important; hence it is also important to manage their expenses, allowing them to keep their finances healthy.

Factor IV: The fourth factor measures the student's perception towards aspects of investment and is explained by the reagents: INVER02 (.771), INVER03 (.674), INVER01 (.526). In the latter factor we are able to extract the variance of some indicators related to the variable investments. While it is true that the student's perception towards investment is acceptable, this should be taken with caution since the concept involves more specialized knowledge. Thus, the student apparently believes that investment products and services offered adapt to their needs.

#### Conclusion

In conclusion, we believe that most of the students who responded to the survey are likely to take favorable decisions on investments, savings, credit, insurance and pensions, spending and budget, then, the opportunity remains open as an invitation to do everything conducive to join efforts with all the involved parties towards financial education.

#### **Disclosure statement**

No potential conflict of interest was reported by the authors.

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