Sustainability and Economic Literacy in College Students of Northern Mexico: The Case of Baja California

Melina Ortega Pérez Tejada
Center for Research and Training in Economic and Financial Education

Sheila Delhumeau Rivera
Faculty of Administrative and Social Sciences
Autonomous University of Baja California

Abstract

In a context where natural resources are being threatened, the United Nations Organization considers that sustainable development should be the driving force that world development is based on in the long term. In that sense, consumption decisions represent the drive for production and for the resources used in it. If people could grasp the notion of the damage their economic consumption decisions may cause, they could begin to consider the magnitude of what is at stake for the future from the decisions they make today. The goal of this paper is to examine the relationship between the economic and sustainability dimensions within the variables of decisions, influences, habits and attitudes, which make up an indicator of economic literacy, in the case of college students in Baja California, Mexico. The results suggest that the higher the level of economic literacy, the greater the level of sustainability awareness.

***Keywords**:* economic literacy, sustainability, college students

JEL numbers: D31, D91, I25, Q01.

Introduction

Within a context of planetary crisis, where natural resources are being threatened by their excessive use in economic activities, the United Nations Organization considers that sustainable development should be the driving force that world development is based on in the long term; for that purpose, actions are being taken on three fronts, which must advance in a balanced manner: i) economic development, ii) social development and iii) environmental protection (ONU, 2012).

The relationship between these three areas has been pointed out by numerous authors as a triad in which not much care has been taken that all progress in a simultaneous manner. It cannot be denied that the impact of decisions made by human beings strongly affects not only the individual level but also collectives (Neira, 2013), and of course the environment. The environmental criticism of economy is not something new; since 1970, the excessive entropy caused by humanity in its use of available natural resources was considered a latent danger (Barrios, 2008).

To that effect, classic macroeconomic indicators – such as the GDP -, used generally to "measure" a nation's development, do not seem adequate for measuring sustainability (Farsari & Prastacos, 2002). But beyond knowing how much a population produces, it is necessary to initiate a sustainability analysis, from the microeconomic perspective as well: to look into how individuals act during their productive activities and what they rely on in their decision making, since each person that performs an economically productive activity can be considered an economic agent, participating in the market, and it is the sum of the decisions of these agents that which moves the entire economic system, by means of the supply of its labor force which produces the goods, which in turn require natural resources; said goods and services produced, are offered on different markets and, at the same time, the economic agents demand other goods and services, which they acquire by means of their available income; and with the help of the technology available today , these production networks which demand and supply goods and services can easily expand around the world, since economic globalization goes hand in hand with overproduction to lower costs and obtain greater profit in capital for the investors.

At the same time, in order to place this overproduction of goods and services which its success is based on, the capitalist economic model requires that the population have sufficient purchasing power in order to buy (Madoery, 2013). This purchasing power has been "extended" due to credit, by means of which future income is committed, in the form of debt, and in our days more and more young people have all kinds of credit experience.

According toDenegri et al. (2014), the globalization dynamics have caused an excessive valuation of consumption, transforming people's priorities, even materializing the social image on a personal or even collective level, based on standards imposed by marketing strategies whose objectives is just that – stimulating consumption. The authors admit that economic development expands upon consumption, but they also point out the seriousness of the situation, because society has shifted from a traditional perspective of austerity and saving, to the softening and normalizing of debt in order to satisfy immediate "desires" – more than actual needs –, derived from the lack of awareness and rationality on the part of individuals. And above all, they emphasize the lack of courses, programs or classes to impart economic "literacy" to students, a training which, according to them, would allow them to make better decisions in handling their resources and everything this leads to (Denegri et al, 2014).

In this context, consumption is a key element in the economic, as well as the social and environmental spheres. Mance (2009), explains that consumption is not merely an economic act; it is an ethical and political standpoint, an exercise in power; the person buying a product or service can at some point support economic, occupational or social oppression of those that took part in its production, and can also unknowingly be a part of a commercial chain which excessively damages our planet.

The goal of this paper is to examine the relationship between the economic and sustainability dimensions within the variables of decisions, influences, habits and attitudes, which make up an indicator of economic literacy, in the case of college students in Baja California.

The present paper is structured in the following manner: firstly, it presents a short literary review that explains and supports the five variables used to design the economic and financial literacy instrument, as well as emphasizes the importance of considering the economic, social and environmental dimensions of said variables, whose relationships will be observed in this paper. The second part refers to the methodology used in this research, as well as some sample data. The third segment presents the results in the levels of Economic and Financial Literacy found in the sample, regarding the three proposed dimensions, and finally, the last part presents comments to the conclusions and limitations of the research, as well as a brief reflection on the future aspects that can be tackled.

Literary review

Personal Economic and Financial Literacy (AEF) is a necessity emerging with economic globalization and technological changes, goods and services produced in more efficient economies, the constant emergence of new products on the financial market and the changes in consumption patterns, which today seem to move away from rational assumptions, in individuals who by nature tend to maximize their wellbeing; in this context, the AEF places itself as an urgent necessity so that each person may understand and manage concepts related to the economic world that surrounds them, may develop the abilities and skills as well as the necessary attitudes to understand it, and may have sufficient elements to make better decisions regarding their resources (Gempp, Denegri, Caprile, 2006; mentioned in Gonzales and Salazar, 2013).

In an empirical review at international level, Gnan, Silgoner and Weber (2007) distinguish three large study groups on economic and financial education: 1) those who seek knowledge, understanding and the ability to make decisions in the market (economic and financial literacy), 2) those that study the perspective of the interaction with market agents (consumer attitudes and decisions) and 3) those that study based on social context (somehow correlating the personal context with economic decisions, which affects their level of economic and financial literacy).

To the authors, the concept of economic and financial education is so heterogeneous on a global level, that it takes its meaning according to the organism or institution which defines it, on the basis of the goals that each entity pursues, and also varies depending on the population group it is intended for. According to their review, they found that this field of study has explored:

1) Values and attitudes (citizenship education and consumer education).
2) Economic reasoning (specialized general and non-financial knowledge, based on the economic model in use and according to which all individuals must make rational decisions in their economic thinking).
3) Economic judgement capability (related to the capacity to criticize a nation's social and economic policies, which constitutes their capability, as citizens participating politically and democratically in the societal decision-making process).
4) Increasing awareness of the relationships in the personal sphere and from the context of the economy.
5) Trust in the financial system and the economy in general (perspective of the users and of the consumers of products and services).
6) Knowledge of the sources of information (to guide them and to find signals or warnings that help make better decisions in the market).
7) Knowledge of rights (within the sphere of abuse and fraud in the financial system in general).
8) Recognition and articulation of needs in this field (identifying needs for required economic and financial education within different sectors and population groups).
9) Social consequences and responsibility, such as the awareness of everyone's roles and responsibilities within society, as well as the side effects on the personal and collective level (as is the case with the present paper).
10) Access to financial services (where they show that financial exclusion derives from economic and financial illiteracy as well as from the conditions of poverty which may prevent these sectors of the population from gaining access to the advantages of the financial system and its services).

The authors also explain that there is economic literacy, financial literacy and economic and financial literacy, whose approaches vary according to the goals of each research and program; nonetheless, they conclude that research on economic education in general points to the use of the educational system in order to take it to the population (Ibidem, 2007).

In a literary review of AEF instruments, the following study variables have been found:

The "influences" that can be generated within each individual, as a consequence of social interaction in different contexts throughout the course of their life with different circles or social groups they come in contact with; this is based on the Theory of Social Learning and the Theory of Human Behavior, such as the studies of Denegri, Gempp and Martinez (2005, in Gonzalez and Salazar, 2013) and of Jorgensen (2007), who consider that there is a considerable degree of influence in the case of college students whose families or friends possess certain levels of AEF.

The variable Economic and financial "knowledge", which according to Iqbal (2003 in Gonzales and Salazar, 2013) canbe the knowing of basic economic concepts (such as opportunity cost, the law of supply and demand, among others) and having a clear notion of more complex concepts (such as gross domestic product, inflation, exchange rate, interest rate, devaluation and appreciation among others).

The variable "Attitudes", which according to the Organization for Economic Co-operation and Development (OECD) is an important element, since it can indicate if individuals are more likely to exhibit certain behaviors in the short and the long term (Atkinson & Messy, 2012). Among the most important attitudes regarding financial education are the attitude towards money, debt, savings, consumption and planning for the future.

The variable "Habits",which can be acquired by influence or learning, and which, in the case of the "bad habits" acquired during childhood (Caripan, Hermosilla and Catalanm 2004; in Gonzalez and Salazar, 2013), prevail until adolescence and, if not observed or corrected can be maintained into adulthood; Jorgensen (2007) indicates that young people can acquire at an early age bad and difficult to break financial habits, which endanger their economic stability in adulthood, fact proven by the findings of other similar studies.

The variable "Decisions", which for the OECD is the one with the highest capacity for measuring people's AEF, because all the other variables are proven using it (Kempson, 2009). For Denegri and Palavecinos (2003, in Gonzales and Salazar, 2013) decisions are the final goal of the AEF, and are part of a process of economic socialization, since the choices that a person can make, even with the limitations they may have in terms of socioeconomic level, vary according to the information received or perceived, the interpretation they give it and the experience, among other issues that have to do with their level of AEF;in order to measure this variable they usually elaborate multiple option items that pose daily economic situations.

The variable Economic and financial "Experiences", which are basically consequences stemming from the decisions, and are part of an economic socialization process, that according toDenegri and Delval (2002, in Gonzales and Salazar, 2013), in the case of people with low or no AEF, are not the result of a systematic process but of an informal and non-planned one. According to Jorgensen (2007) these experiences should produce a change or affirmation – of the decisions – in the individual that makes them, since under the assumption that everyone has the ability to reason systematically, we process information derived from our context, but especially from the experiences we have, to reaffirm or modify our economic knowledge and understanding. In this sense, having been through an experience, whether good or bad, should leave a learning to either repeat or stop exhibiting that same behavior, depending on the cost and the benefit that each person has.

Apart from the previous, it was deemed necessary to add a variable regarding the knowledge of the context of the social, the political, the territorial and the environmental dimensions (SPETA Context) within the analysis of the AEF in college students taking their bachelor's degree in the higher education institutions of Baja California, where the present study takes place. Diez-Martinez (2009) points out that economic and financial literacy has been present for a long while in the school curricula of certain countries such as the United States of America, Japan, England, among others; but that in the case of Mexico, it is necessary to include adequate content on this topic, and also to design it with a much broader vision, that considers the context of "sustainable development", and thus offers education for sustainable consumption. In this sense, the author explains that given the situations of resource scarcity and contamination of the planet, there is a lack of education for citizenship, that allows the creation of an economic thinking, that considers social and environmental contexts, since it is precisely the economic context which determines the social situation, both at an individual level as well as within a population, and also, it is the economic activity which has caused environmental damage, having been performed without an awareness of resource use.

Diez-Martinez (2009) explains that economic decisions that seek to optimize resources are made every day: we manage money in order to obtain material resources necessary to live, and we also manage intangible resources such as energy, physical strength, time for daily activities and for activities performed progressively throughout the years. The entire life is an exercise in resource management; some are "free" (such as the air we breathe, solar energy and rainwater), and others we have to pay for to obtain (clothing, footwear, food, health etc.); both types of resources are provided by nature and, in a strictly natural sense, the most basic thing that human beings need in order to live, is our planet, which provides us with all these resources. Today, this only planet we have to live on, is in danger because of the carelessness in resource use in our productive activities. Hence the importance of having a dimension that measures "environmental awareness" in the AEF instrument that has been designed for this research.

Methodology

This paper is a transversal research with a non-experimental design, and the results presented here are descriptive and correlational, using part of the data obtained by means of a survey of the author's own design, applied in November and December of 2015 in two higher education institutions (a public and a private one) of high prestige in the area. The probabilistic sample was calculated on the basis of the current school enrolment for the corresponding period in the campuses of Ensenada, Tijuana and Mexicali in Baja California, Mexico. The instrument contains 20 sociodemographic identification questions and 66 items that make up the 5 variables posed in the research on AEF. Different types of scale were used for the answers (some dichotomous, other Likert type, and for the variables that measure knowledge and abilities, polytomous scales have been used, which were subsequently transformed into dichotomous of the "correct/incorrect" type, after the observations had been collected).

The instrument's general Chronbach's Alpha was 0.751 which, according to Ruiz (1998, cited by De Pelekais, 2007, page 89) can be considered "high reliability". It is worth mentioning that in the process of reliability analysis, the statistical package suggested eliminating 23 items in order to increase the level of internal consistency to an Alpha of 0.800. Nevertheless, seeing as how the items suggested for elimination contributed very important qualitative information regarding savings and compulsive shopping, it was the authors' decision to leave the instrument with the 66 items with which it had been designed, and which had its content validated by a group of experts.

Since the goal of the present paper is to examine the relationship between the sustainability dimension and the economic-financial dimension in the variables "Knowledge", "Influences", "Habits", "Attitudes", "Experiences", "SPET Context" and "Decisions", which according to the previous literary review make up the indicators of economic and financial literacy, a variable will be constructed with the items that estimate a dimension of environmental awareness regarding economic activities, and its correlation with each one of the proposed variables will be analyzed.

In that way, for the purpose of this research, the variable "Environmental Awareness" has been created, made up of six items that measure the action or lack of, knowledge or lack of, regarding the care for natural resources and the impact of our economic activities; it is worth mentioning though, that this dimension of sustainability was included in the research on AEF as part of the independent variable called "SPETA Context" (which, for the purpose of this paper, has been transformed into "SPET Context"), and its items pose questions or actual situations under conditions of resource scarcity, that the people must consider both in the short and the long term, problems and situations that are present in the environmental dimension and some of them specific to the case of Baja California:

1. "If I see a water leak on the street I report it to the State Commission of Public Services", 2. "Wind power is a type of sustainable energy that we already have in Baja California", 3. I like taking personal action in favor of the environment", 4. "Depending on the product or service, with our consumption we can help or hurt the environment", 5. Do you recycle in any way in your home (water, waste, materials)?", 6. In Baja California there is an agricultural sector, a livestock sector, a fishing sector, and industrial and a tourism sector. Does this mean that there is an abundance of natural resources to use them according to our needs?"

The scale of the answers to the first four items is Likert type, with 5 points going from 1 ("Completely disagree") to 5 ("Completely agree"), while for the last two items the scale is dichotomous ("Yes/No" and "True/False", respectively). Adding up the points of the six items the result is a scale with 4 as a minimum and 22 as a maximum, and starting from these points three categories have been built, with the following ranges: 1. 4 to 7, is considered to "not have" environmental awareness; 2. 8 to 14 is considered to have "little" environmental awareness and 3. 15 to 22 is considered to have "good" environmental awareness.

The independent variables are the following: 1) "influences", made up of 5 items, 2) "habits" contains 7 indicators, 3) "attitudes" has 8 items, 4) "experiences" made up of 9 questions, 5) "SPET context (social, political, economic and territorial)" contains 12 items, 6) "knowledge" made up of 10 items that measure the knowledge of economic and financial aspects important for decision making in everyday life and 7) "decisions", with 9 items, which in the thesis document is posed as a dependent variable, since according to the literary review it is perhaps the variable that comes closest to measuring people's AEF. In order to calculate each variable, a simple process of addition will be performed with the points of each of their items, obtaining scale values which can later be separated into intervals or categories in order to interpret the results.

In order to analyze the relationship between variables, a correlation matrix is obtained on the basis of the Pearson Coefficient, which, according to Hernandez, Fernandez and Baptista (2010, page 311), "is a statistical test to analyze the relationship between two variables measured on an interval or ratio level"; i.e. by means of this coefficient, which varies between 0 and 1, one can suppose with a certain degree of confidence established a priori (which generally equals 95%) whether or not there is a relationship between said variables, and the result is interpreted as a magnitude of intensity, even though the test itself does not consider one of the variables as dependent and the other as independent, and thus does not establish a cause-effect notion. The sign of this coefficient indicates the direction of the correlation between variables, which can be positive or negative, and the level of significance (known as the "*p-value*" with which the results are interpreted in order to accept or reject the hypotheses of the research) indicates the probability of assuming that said relationship between the variables is true or not.

In this sense, the authors explain that significant correlations can show up (i.e. that have a 95% or even 99% confidence that the relationship between variables is true) but with magnitudes considered "weak" (according to the authors, a correlation lower than 0.30 would be considered such) though it may indicate that one must not underestimate that relationship, weak as it may be, if it is significant, it may help explain a connection between variables. In the same manner, there are correlations with a very strong magnitude (according to the authors it should be over 0.90) but their significance or *p-value* does not fall in the parameter to accept the relationship hypothesis, being at high risk of a Type 1 or Type 2 error (Hernandez et al., 2010).

Results

Once all the numerical variables have been calculated, the Pearson correlations of the variable "Environmental Awareness" were observed in regard to all the others. Excepting the variable "Experiences", all had a correlation that according to Hernandez et al. (2010) can be interpreted as "weak", but with a high level of significance.

Figure 1. "Pearson correlations and Shared variance between variables

Variables	Indicators	Environmental Awareness	Interpretation of Pearson Coefficient (1)	Variance	Variance Interpretation
Habits	Pearson Correlation	.304**	Positive, weak	0.092416	9% of shared variance
	Sig. (bilateral)	.000			
	N	207			
Attitudes	Pearson Correlation	.259**	Positive, weak	0.067081	7% of shared variance
	Sig. (bilateral)	.000			
	N	205			
Knowledge	Pearson Correlation	.364**	Positive, weak	0.132496	13% of shared variance
	Sig. (bilateral)	.000			
	N	207			
Experiences	Pearson Correlation	-.036	Negative, very weak	-	-
	Sig. (bilateral)	.608			
	N	206			
Influences	Pearson Correlation	.180**	Positive, very weak	0.0324	3% of shared variance
	Sig. (bilateral)	.010			
	N	207			
SPET Context	Pearson Correlation	.296**	Positive, weak	0.087616	8% of shared variance
	Sig. (bilateral)	.000			
	N	206			
AEF Decisions	Pearson Correlation	.149*	Positive, very weak	0.022201	2% of shared variance
	Sig. (bilateral)	.034			
	N	205			

** The correlation is significant on the 0.01 level (2 tail)

* The correlation is significant on the 0.05 level (2 tail)

(1) According to Hernandez, Fernandez and Baptista (2010)

Source: Compiled by the authors, based on results.

By means of the correlation coefficient (r) one can easily calculate the shared variance between the two variables, merely by squaring it (r^2) and for a greater ease in interpretation according to the same authors, it must be expressed in terms of percentage. This way, the shared variance was calculated on the basis of the Pearson correlation coefficients (see Figure 1).

To complement this information and offer a better visualization of the relationship between the variable "Environmental Awareness" and each of the others, categories were created in each variable to clearly present and interpret the results, based on literary review of the main research which this paper stems from. For the main variable of this analysis, "Environmental Awareness", 3 categories were created: 1-Little environmental awareness, 2-Good environmental awareness and 3-High environmental awareness. In this sample there were no cases found with the highest category,

A situation that is present not only in the case of this variable, and more will be discussed on this topic in the conclusions part of this paper. Cross tables for each one of the cases are presented below, with brief comments on the findings of this exploratory research.

For the variable "Habits" 3 categories were created: 1-No positive habits, 2-Some positive habits and 3-Only positive habits; all of these categories refer to the presence or absence of economic and financial habits such as saving, planning, budget preparation and non-compulsive shopping among others. By crossing "Environmental Awareness" with this variable, a tendency can be clearly observed (see Table 1).

Table 1. "Habits and Environmental Awareness"

		Environmental Awareness		Total
	Categories in each variable	Little environmental awareness	Good environmental awareness	
Habits	No positive habits	66.7%	33.3%	100.0%
	Some positive habits	35.4%	64.6%	100.0%
Total		37.2%	62.8%	100.0%

Source: Compiled by the author based on results

In the variable "Attitudes" 3 categories were created: 1-Non-positive, 2-Vague and 3-Positive; they refer to attitudes towards money, saving, expenses and debt among others. For example, within the "non-positive" attitudes abound those who usually "borrow or pawn in order to cover unforeseen expenses", in the "positive" category there are those that tend to plan savings in order to reach goals, while in the "vague" category are found those who have attitudes from both poles.

In this case a pattern can also be observed between both variables: 68% of those with "little environmental awareness" are also within the "non-positive" attitudes towards economy and finance category, and the ratio keeps decreasing as the attitudes in the other two categories improve, while in the case of those with a "good environmental awareness" the opposite tendency occurs (Table 2).

Table 2. "Attitudes and Environmental Awareness"

		Environmental Awareness		
	Categories	Little environmental awareness	Good environmental awareness	Total
Attitudes	Non-positive	68.0%	32.0%	100.0%
	Vague	36.9%	63.1%	100.0%
	Positive	20.5%	79.5%	100.0%
Total		37.6%	62.4%	100.0%

Source: Compiled by the authors based on results

For the variable "Knowledge", which refers to knowledge of economic and financial aspects that occur in daily life, 4 categories were created: 1-No knowledge, 2-Little knowledge, 3-Intermediate knowledge and 4-Good knowledge. Four categories were necessary in order to distinguish between those who exhibited absolutely no knowledge from those that answered everything correctly. This last group is aware not only of the function of institutions that protect consumers and users of financial services (for example), but also of the practical concepts of topics such as interest, inflation, how the labor market works, the statutory tax rates for professionals in Baja California at the moment of the survey, among others.

When observing this variable in connection to "Environmental Awareness", a certain linear tendency becomes apparent: it seems that the higher the level of economic and financial knowledge, the better the environmental awareness (Table 3).

Table 3. "Knowledge and Environmental Awareness"				
		Environmental Awareness		Total
	Categories	Little environmental awareness	Good environmental awareness	
Knowledge	No knowledge	100.0%	0.0%	100.0%
	Little knowledge	48.5%	51.5%	100.0%
	Intermediate knowledge	20.9%	79.1%	100.0%
	Good knowledge	12.5%	87.5%	100.0%
Total		37.2%	62.8%	100.0%

Source: Compiled by the authors, based on results.

Something similar occurs in the case of the variable "Experiences" (Table 4). Even though in the correlations matrix this was the only variable that didn't have an acceptable level of significance to confirm that the apparent relationship between these two variables is statistically true, the magnitude of the correlation was small and negative (-0.036), perhaps that is because of the categorization it has.

Table 4. "Experiences and Environmental Awareness"				
		Environmental Awareness		Total
	Categories	Little environmental awareness	Good environmental awareness	
Experiences	No experiences	100.0%	0.0%	100.0%
	Few experiences	35.3%	64.7%	100.0%
	Many experiences	40.9%	59.1%	100.0%
Total		37.4%	62.6%	100.0%

Source: Compiled by the authors, based on results.

Within the group that has "No experiences" are those that have had no loans, credit (i.e. don't have, and never had debt), but also have not saved money in their life (or at least this is what they answered in the survey), and also have not had to look for a job in the last 6 months preceding the moment of answering the survey (in economic terms they are not part of the Economically Active Population).

In the group that has "Many experiences" are those that have had debt (formal and informal), when shopping these people can be swayed by offers and sales, or have done shopping to feel better about themselves or to make someone else feel better because they could not refuse the salesman, have crossed the border to go shopping or have charged someone to shop there for them, in short: they have had economic and financial experiences that in literary review can be considered "a source of learning" and which can help modify their future decisions, either by continuing to perform that behavior (for example saving) or to stop performing it, if they so intend to (such as the excessive debt).

Within the group with "little experiences" are those midway between the two poles, who may have certain of the characteristics mentioned, but not the entire set: they may save, but not have debt or vice versa; they may cross the border to shop or charge someone else to shop there for them; they may shop for psychological reasons rather than physiological ones, or just to "take advantage of sales and offers". Of the three groups, this may be the more moderate one, the more rational, the one that balances living with debt and saving for emergencies, shopping on impulse or because of actual need, and maybe that's why this group has the largest number of people with a "good environmental awareness".

Three categories have been created for the variable "Influences": 1-Negative, 2-Vague and 3-Positive. In the first group there are for example those who have had parents that are usually in constant debt, who don't plan their finances and who determine their image (what they wear, the places they frequent, and even the frequency they do it with in order to spend money) on the basis of the image they receive from other people (in economic science the "theory of relative income" posits that people's savings level may depend on them wanting to appear as, or imitate the level of livelihood of those they admire);

This factor is not considered positive, because the tendency to not vary consumption habits, in order to appear to have a certain level of life, or to create dangerous habits (such as debt) depending on someone else that may not have the same income restrictions, should be considered as a behavior that is not rationally thought of, therefore, in this context, that influence cannot be positive.

On the opposite side, in the group where the influences are "Positive" there are those who won't allow themselves to be influenced by others to determine aspects that involve spending – such as image (branded clothing, technological accessories etc.) –, whose parents don't have debt, who plan their finances etc. and in the group with "Vague" influences are those who have received both kinds of influences: perhaps only the father saves money, and the mother does not plan, or vice versa; or perhaps they are both positive influences, but that person allows him or herself to be influenced buy another person that they admire.

Table 5. "Influences and Environmental Awareness"

		Environmental Awareness		Total
	Categories	Little environmental awareness	Good environmental awareness	
Influences	Negative	50.0%	50.0%	100.0%
	Vague	38.4%	61.6%	100.0%
	Positive	20.0%	80.0%	100.0%
Total		37.2%	62.8%	100.0%

Source: Compiled by the authors, based on results.

The ratio of "environmental awareness" starts off identical in the category of those with "negative influences" but as these become more positive, the ratio of good environmental awareness begins to grow (Table 5).

Table 6. "SPET Context and Environmental Awareness"

		Environmental Awareness		Total
	Categories	Little environmental awareness	Good environmental awareness	
SPET Context	Has some context information	71.4%	28.6%	100.0%
	Knows the context	43.7%	56.3%	100.0%
	Stays informed about the context	21.1%	78.9%	100.0%
	Lives part of the context	0.0%	100.0%	100.0%
Total		37.4%	62.6%	100.0%

Source: Compiled by the authors, based on results.

variable "SPET Context" refers to the social, political, economic and territorial context (Table 6) and has 4 categories: in the first group are those that "have some information about the context", i.e. those who may (for example) know the amount of the minimum wage that applied at the moment of answering the survey, or the interest rate of the Added Value – that had already been approved at the moment of answering the survey –.

In the second group, those who "know the context", are those who apart from knowing the previous, may know the procedure to open a business in the city where they live, know the technology that can allow them to do business with someone at the other end of the world (buying, selling, renting online etc.), including knowing that the biggest part of the government income doesn't come from big companies but from small ones.

In the third group, "stays informed about the context", are those who apart from knowing the previous, also know the political and structural changes the country has gone through: for example, they know that today any independent worker or business owner can open a savings account for retirement without the need to contribute to any social security institution, and they know that the remittances sent to Mexico by immigrant workers play an important part in the national economy.

In the fourth group, those who "live part of the context", are those who, apart from knowing all of the already mentioned, are living in situations that force them to be much more aware of the information in their surroundings and to make decisions regarding it, present their case and criticize by arguing their own experience or the experience of someone close to them. For example, here are those that "know someone who is already retired and has problems surviving with an insufficient pension, those who believe that "a reform in the healthcare system or in the rights of the workers in those institutions, should not only be in the interest of those studying medicine or nursing", those that know that "being affiliated to a social security institution does not guarantee a secure future in old age", are aware that "corruption has an economic cost that all citizens pay", and consider that voting is a fundamental exercise because "it has to do with personal economy and future plans".

Table 6 shows how the ratios of "Environmental Awareness" change in the different groups of context knowledge: the initial tendency gets reversed in the third group, but in the fourth, the group with little environmental awareness disappears.

Finally, the variable "AEF Decisions", which is the one that comes closest to measuring people's Economic and Financial Literacy, has 4 categories according to their punctuation of correct answers to different questions that posited situations which required decision making. The first category, called "Has no AEF", groups together those who had 0 points in the section of questions measuring this variable (Table 7).

As they began making correct decisions, their points went up, so that in the last category there are those that made the best decisions for the majority of items. One can appreciate that, similarly to other variables, as the decisions category improves, the proportion of good environmental awareness also goes up.

Table 7. "AEF Decisions and Environmental Awareness"

		Environmental Awareness		Total
	Categories	Little environmental awareness	Good environmental awareness	
AEF Decisions	Has no AEF	80.0%	20.0%	100.0%
	Low AEF	42.6%	57.4%	100.0%
	Intermediate AEF	34.3%	65.7%	100.0%
	High AEF	32.4%	67.6%	100.0%
Total		37.6%	62.4%	100.0%

Source: Compiled by the authors, based on results.

Conclusions

The goal of the present paper was to examine the relationship between the economic and sustainability dimensions of the variables that make up an indicator of AEF in the college students of Baja California. As it was posited in the introduction, in a context of scarcity in which the new global perspective on growth is sustainable development, and since this development must be based on three aspects (economic, social and environmental), it is fundamental to examine the relationship between them, and even more importantly, to do so from the perspective of including them as part of the professional training, in a proposal of economic and financial literacy.

Although this paper has only an exploratory scope, and even though the magnitude of the correlations has no great impact, it could be proven that almost all variables (except one, "experiences") really do have a significant relationship, i.e. the magnitude is weak, but it is real. Furthermore, it is "weak" on individual level, but putting all variables together and analyzing the reliability, the set of elements has a good general consistency, and if one eliminates the "environmental awareness" dimension from this set, the reliability coefficient would fall below the minimum acceptable value to be considered for the research, therefore this gives an idea of the importance this dimension of environmental awareness has in the instrument that measures AEF. The variable "Experiences" which has no significant correlation and whose results in the cross tables shows a strange behavior (compared to the rest of the variables in regards to "environmental awareness") may not have a significant direct and linear relationship, but perhaps does have one in the opposite sense (cubic, exponential) and perhaps the key to better understand the type of relationship between them is precisely the consumption factor: in the group where there was a total lack of consumption present through debt and lack of "future consumption" through savings (the group had no experience of anything), there was no presence of those with a "good environmental awareness"; while at the opposite end, with all consumption experiences present and future through debt and savings.

There were people with a "good environmental awareness" but only slightly above those without it; and it is in the intermediate group where consumption seems to be "moderate" (i.e. do not live with debt but have had loan experiences, don't always save but save enough to reach their goals or may not save much but they do it constantly) that there is greater presence of people with a "good environmental awareness", which might lead one to thing that not all consumers are unaware, and not all those who are not consumers are environmentally aware. Perhaps with an instrument designed to measure the environmental awareness exclusively as a variable (and not as a dimension, as is the case with the research which this paper stems from) in relation to the AEF variable, it may turn out that the correlations found here are in reality much stronger; and perhaps also with a different sample.

Nonetheless, one may consider that the goal of this paper has been reached, despite the existing limitations, among which the first one is the lack of monetary resources sufficient to extend the application of the survey to more distant areas from the entity, since even with the presence of education extension centers, the rural areas could not be covered, and the time for the application of the instrument was also within a plan imposed by different factors outside personal control. Secondly, there is the factor of the great diversity represented by the constant emergence of Higher Education Institutions within the entity: even though certain criteria had to be determined to select the Higher Education Institutions where the instrument was applied, it was regrettable to omit so many new higher education centers where school enrollment may not be high but that does not make them less important for the students that are part of them, and of course, for the interest of those carrying out the present study. Another limitation to consider is the lack of research to link economic and financial education to sustainability in the context of Baja California, which does not allow for previous basis upon which to posit or reject variables and make a better comparison of the results, and this is the reason why in the present paper only an exploratory scope has been considered.

According to Porto Goncalvez (2006), the capitalist model and the process of globalization pose a challenge that goes beyond the market: an environmental challenge. In an analysis from the environmental perspective, where politics, the model in use and mankind are factors of change and high impact for the natural environment, the author posits a series of considerations reasoning in light of the "social" problems, whose implications have a higher cost that is being paid by the entire planet: How is the plundering of the planet configured? Are there limits to the relationship between societies and nature? Are there limits to the market from the environmental perspective? What are the environmental implications of the external debt? What are the ecological impacts of urbanization and the present agricultural model? What is genetic contamination? What is and what are the implications of global warming? Is the environment merchandise? And the most important question posed by the author, 'Where do the forces to face the contemporary environmental challenge emerge from?'

As a conclusion, the answer that can be given from the perspective of this paper to this last question, is that these forces to face the challenge come from each one of those becoming environmentally aware, and that the results found here point to the fact that knowledge is what most relates to the awakening of this awareness. Perhaps not everyone is aware of the environmental danger posed by keeping up with this pace of overproduction in our economic activities, nor of the implications derived from it; perhaps an important part of the population is waiting for the global corporations and governments of each entity to take a stand in that issue. But in the case of the ones that do know this, there seems to be a higher degree of rationality in their economic and financial decision making, and there even seems to be a higher "civic awareness" coupled with the environmental awareness; their consumption is not without reflection, and even their habits and their influences may become less relevant when their knowledge is modified.

Modifying knowledge may be the means by which all other aspects can be changed: influences, attitudes, experiences and above all consumption decisions (or non-consumption, when we are dealing with savings). In order to modify knowledge, a change in the education of our children is required, with a proposal for economic and financial literacy that includes the environmental dimension in order to achieve a perspective of sustainability in our development. What comes next? Given the limited exploration of research that considers the economic and financial aspects coupled with the care for the environment in the education received by students in Baja California, the paths to follow are numerous, and, from our standpoint, very promising. We hope that very soon new investigations will emerge, that bring forth more data regarding this topic, so as to be able to suggest programs with more specific needs to the policy makers in these four areas: educational, economic, social and environmental.

Bibliography

Atkinson, A. & Messy, F. (2012). "Measuring Financial Literacy: Results of the OECD/International Network on
Financial Education (INFE) Pilot Study", OECD Working Papers in Finance, Insurance and Private Pensions, No. 15, OECD Publishing. Available at: http://www.oecd-ilibrary.org/finance-and-investment/measuring-financial-literacy_5k9csfs90fr4-en

Barrios, M. (2008). "La economía ecológica política. Una revisión de los principales elementos para su debate", Análisis Económico, vol. XXIII, núm. 54, pp. 239.265. Universidad Autónoma Metropolitana, Unidad Azcapotzalco, México, Distrito Federal. Accessed on November 20th 2015, available at: http://www.redalyc.org/pdf/413/41311483012.pdf

De Pelekais, C., Finol, M., Neuman, N. y Belloso, O. (2007). El ABC de la investigación, una aproximación teórico-práctica, segunda edición, Editores Astro Data, Maracaibo Venezuela.

Denegri, M., Del Valle, C., González, Y., Etchebarne, S., Sepúlveda, J. y Sandoval, D. (2014). "¿Consumidores o ciudadanos? Una propuesta de inserción en la educación económica y financiera en la formación inicial docente", en Estudios Pedagógicos, vol. XL, n. 1, pp. 75-96, accessed on April 11th 2016, available at: http://www.scielo.cl/pdf/estped/v40n1/art05.pdf

Diez-Martínez, E. (2009). "La alfabetización socioeconómica y financiera y la educación para el consumo sostenible en México: algunas reflexiones desde la psicología y la educación", CPU-e, Revista de Investigación Educativa, enero-junio, p.1-15, accessed on March 10th 2016, available at: http://www.redalyc.org/articulo.oa?id=283121717005

Farsari, Y. &Prastacos, P. (2002). "Sustainable development indicators: an overview", Foundation for the Research and Technology Hellas, accessed onNovember 12th 2015, available at: http://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.196.4417&rep=rep1&type=pdf

Gnan, E., Silgoner, M. & Weber, B. (2007). "Economic and financial education: Concepts, goals and measurement". Monetary Policy & the Economy, Q3. OeNB. Vienna. Accessed onAugust 16th 2015, available at: http://econpapers.repec.org/article/onboenbmp/y_3a2007_3ai_3a3_3ab_3a2.htm

González, C. y Salazar, N. (2013). "Estudio comparativo del nivel de Alfabetización Económica y Actitud hacia el endeudamiento en estudiantes de Ingeniería Comercial y estudiantes de Pedagogía en Chile", Tesis presentada en el Seminario para optar al título de Ingeniero Comercial con mención en Administración, Facultad de Economía y Negocios-Escuela de Economía y Administración, Universidad de Chile. Available at: http://repositorio.uchile.cl/handle/2250/113970

Hernández, R., Fernández, C. y Baptista, P. (2010). Metodología de la investigación, México, DF, México:EditorialMcGrawHill.

Jorgensen, Bryce L. (2007). "Financial Literacy of College Students: Parental and Peer influences". Tesis inédita para obtener el Grado de Maestro en Ciencia del Desarrollo Humano, Instituto Politécnico de Virginia y Universidad Estatal. Blacksbourg, Virginia. Accessed on August 6th 2015, available at: http://scholar.lib.vt.edu/theses/available/etd-10162007-143627/unrestricted/Thesis_BJ2.pdf

Kempson, E. (2009). "Framework for the Development of Financial Literacy Baseline Surveys AFirst International Comparative Analysis", OECD Working Papers on Finance, Insurance and Private Pensions No. 1, ISSN: 2079-7117, OECD-iLibrary. Available at: http://www.oecd-ilibrary.org/finance-and-investment/framework-for-the-development-of-financial-literacy-baseline-surveys_5kmddpz7m9zq-en

Madoery, O. (2013). "Tres tesis para una re-interpretación política del desarrollo", in Temas y Debates (26) 17, julio-diciembre 2013, pp. 13-37

Mance, A. (2009). "Consumo Solidario" en Cattani, Coraggio y Laville (organizadores), Diccionario de la Otra Economía, Colección Lecturas sobre Economía Social. Universidad Nacional de General Sarmiento, Editorial Altamira y CLACSO (coeditores).

Neira, J. (2013). "La irracionalidad del pensamiento económico racional", Finanzas para el Desarrollo, Macroeconomía. Blog del Semillero de Finanzas de la Facultad de Finanzas, Gobierno y Relaciones Internacionales de la Universidad Externado de Colombia. Accessed on December 5th 2015, available at: https://finanzaspublicasparaeldesarrollo.files.wordpress.com/2013/03/la-irracionalidad-el-pensamiento-econc3b3mica-racional.pdf

ONU (2012). "Desarrollo Sostenible", Asamblea General de las Naciones Unidas, Presidente del 65 periodo de sesiones. Accessed on September 11th 2015, available at:
http://www.un.org/es/ga/president/65/issues/sustdev.shtml

Porto Goncalvez, C. (2006). El Desafío Ambiental, publicado por el Programa de las Naciones Unidas para el Medio Ambiente (PNUD), México, D.F.