

# CONSUMER MYOPIA: A CROSS-CULTURAL STUDY ABOUT THE ATTITUDE AND SUSTAINABLE BEHAVIOR OF UNIVERSITY STUDENTS

## *CONSUMER MYOPIA: UM ESTUDO CROSS-CULTURAL SOBRE A ATITUDE E O COMPORTAMENTO SUSTENTÁVEL DE ESTUDANTES UNIVERSITÁRIOS*

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## ABSTRACT

**Purpose** - The present study has the general objective to verify the myopia level of Management students from different cultures.

**Design/methodology/approach** - For that purpose, the methodology chosen was, as for means, quantitative and qualitative, and as for purposes, exploratory and descriptive. The primary data were collected through questionnaires and interviews applied with Brazilian and German Management students.

**Findings** - Regarding the results, it was observed that the students of both countries have similar attitudes and behaviors concerning sustainability; moreover, it was verified moderate myopia concerning the environmental behavior of the students inside both universities despite cultural differences.

**Research limitations/implications** - The present study cannot generalize the results for the universe Brazil and Germany, one of the limitations of the study being the cult-unit researched. Only Management students of the two countries were studied, besides being sampled for convenience.

**Social implications** - In Bremen, the resource economy is cultural it was developed especially in the post-war periods with the restrictions imposed on the country. On the other side of the comparison, we have Fortaleza, a city in northeastern Brazil. The scourge of northeastern droughts has led the region to develop a culture of water and resource-saving.

**Originality/value** - The study empirically tested a new concept related to sustainability with people from two countries with different realities. The consumer myopia identifies the short-term view of consumers concerned only with their immediate personal satisfaction, and who do not envisage the possibility of allying this satisfaction with sustainability in the long term.

**Keywords:** Sustainable consumption. Transcultural. Brazil. Germany. Sustainability.

## RESUMO

**Objetivo** - O presente estudo tem como objetivo geral verificar o nível de miopia de estudantes de Administração de diferentes culturas.

**Design / metodologia / abordagem** - Para tanto, a metodologia escolhida foi, quanto aos meios, quantitativa e qualitativa, e quanto aos objetivos, exploratória e descritiva. Os dados primários foram coletados por meio de questionários e entrevistas aplicadas com estudantes de Administração brasileiros e alemães.

**Resultados** - Em relação aos resultados, observou-se que os alunos de ambos países apresentam atitudes e comportamentos semelhantes em relação à sustentabilidade; além disso, verificou-se miopia moderada quanto ao comportamento ambiental dos alunos de ambas as universidades, apesar das diferenças culturais.

**Limitações / implicações da pesquisa** - O presente estudo não pode generalizar os resultados para o universo Brasil e Alemanha, sendo uma das limitações do estudo a unidade de cultura pesquisada. Apenas estudantes de administração dos dois países foram estudados, além da amostra ser por conveniência.

**Implicações sociais** - Em Bremen, a economia de recursos é cultural, ela foi desenvolvida especialmente no pós-segunda guerra mundial, com as restrições impostas ao país. Do outro lado da comparação, temos Fortaleza, uma cidade do Nordeste do Brasil. O flagelo das secas nordestinas levou a região a desenvolver uma cultura de economia de água e recursos.

**Originalidade / valor** - O estudo testou empiricamente um novo conceito relacionado à sustentabilidade com pessoas de dois países com realidades diferentes. A miopia do consumidor identifica a visão de curto prazo dos consumidores preocupados apenas com a sua satisfação pessoal imediata, e que não vislumbram a possibilidade de aliar essa satisfação à sustentabilidade no longo prazo.

**Palavras-chave:** Consumo sustentável. Transcultural. Brasil. Alemanha. Sustentabilidade.

## 1 INTRODUCTION

Humanity faces serious challenges in regards to sustainability: from an environmental standpoint, climate change and the scarcity of natural resources; and from a societal point of view, there is an increase in inequality (Lorek & Fuchs, 2013). The perception that natural resources are finite and that their extinction threatens human survival has brought political, social, economic and scientific repercussions (Teixeira, Silva-Filho & Meireles, 2016). Through these repercussions, it was observed that there is an urgent need to improve the sustainability practices of both families and organizations (Doyle & Davies, 2013).

In this context, it is necessary to evaluate consumer behavior and modes of consumption in an attempt to contribute to a more balanced world – with less waste and environmental impact (Motke, Rosa, Lengler, Mainardi, & Trevisan, 2016). It is important that people understand the complex environmental reality to reflect on the environmental implications resulting from their behaviors and to become aware of their position of interdependence for the environment. Universities play a central role in this process because it educates its students, significantly contributing to the construction of future generations' ability to deal with the problems of a non-sustainable world (Barth, Adomssent, Fischer, Richter & Rieckmann, 2014).

According to Ferraz, Romero, Laroche, Rebouças, Reinaldo and Costa (2013), little is known about students' views within business schools. These students' views are important, especially in regards to sustainability, because they will become future organizational leaders responsible for addressing environmental concerns and demands. Still in the view of Ferraz et al. (2013), the importance of publishing studies and research about environmental concern in different cultures and nations is latent, since little is known about the concern and environmental behavior of these students around the world.

Therefore, the question of research emerged: what is the attitude and behavior of Management students from different cultures in relation to sustainability issues? To answer the question,



the following general objective was drawn: to verify the attitude and behavior of Brazilian and German Management students in relation to sustainability issues.

The choice of Germany for the study is justified by the fact that the country is the most prominent economy in Europe, as well as the fourth largest economy in the world, behind only the United States, China and Japan (Justo, 2016). In addition, according to Breyer and Frein (2009), it is an absolute leader in clean alternative energy production and is a world reference in renewable energy, indicating that there is a level of concern about sustainability in the country.

The Hochschule Bremen (HSB) was chosen because it is an important German university and has a student exchange partnership with the Federal University of Ceará (UFC). The UFC was chosen because it is one of the most important universities in Brazil. Another important point for the choice of the two universities was the accessibility of the researchers to their students.

The study that inspired the present research was the work "Consumer Myopia: an analysis of the attitude and the sustainable behavior of servers of Federal Institutions of Higher Education", realized by Paiva, Romero, Oliveira and Guimarães (2017). In this study, the authors launched a new concept - the "Consumer Myopia", used to identify the short-term view of consumers concerned only with their immediate personal satisfaction, and who do not envisage the possibility of allying this satisfaction with sustainability in the long term. The authors relied on the concept of Myopia in Marketing elicited by Levitt (1960) and the concept of Myopia in Green Marketing raised by Ottman, Stafford and Hartman (2006).

## 2 CONCEPTUAL BASES

The present conceptual basis shows the characteristics of Attitudes and Environmental Behaviors of consumers and Cross-Cultural Studies, as well as their importance.

### 2.1 Environmental Attitudes and Behaviors

Traditionally, marketing has been studied from several perspectives. Considered one of the most important perspectives of marketing (Sheth, Gardner & Garrett, 1988), the school of consumer behavior has been increasing in prominence both in the academic context and in the market context (Warde, 2014).

This prominence has been garnered through the importance of consumption in the contemporary world. Some authors argue that it is the main driving force behind social and economic development, others that it is the main concern of populations in much of the world. The subject has been widely studied by most disciplines in the social sciences and in the humanities. This multidisciplinary of studies produced a very diversified field of study (Warde, 2014).

Among these studies of consumer behavior, there are studies that sought to find out what are the factors that act on the individual to behave in a certain way. Khan (2007) listed some of the key factors that lead people to consume certain products. These factors of influence may be external (eg. culture, values, subculture, demographic factors, social status, reference groups, and family) or internal factors (such as emotions, motivations, buyer personality, perception, and learning) and are directly linked to an individual's attitude.

A growing body of evidence suggests that attitudes play an important role in the human behavior (Janke & Handy, 2019). However, behavior will not always be reflected by attitude. It is already widely reported in the literature that even when people have environmental concerns, this concern does not necessarily translate into environmentally conscious behavior. Although people



have a favorable attitude towards the environment, this does not guarantee environmentally conscious behavior (Anvar & Venter, 2014).

Following that thought, it is important to understand what attitude is. The term “attitude” is derived from a Latin word which, when translated, means “posture” or “physical position,” and this, in general, suggests the kind of action a person would take in relation to something (Bedante, 2004). According to Ikechukwu, Daubry and Iruka (2012), attitude is the perception that the consumer has of a product; this perception determines the acceptance or not of the product. That is, attitudes are developed from environmental stimuli such as how products are offered to consumers and how they communicate with consumers.

These attitudes can be used to predict or anticipate behaviors, which makes them important in consumer behavior researches (Silva, 2012). This relationship between attitude and behavior is well studied in the field of social studies. One of the major groups of theories that study this phenomenon is Expectancy Value Theories (EVTs).

EVTs explain behavior as a process in which the individual is influenced by attitudes. These attitudes are formed by weighing beliefs about the costs and benefits of behavior and the extent to which a person values these specific costs and benefits. One of the best known and validated EVT is the Theory of Planned Behavior (TPB) (Ajzen, 1991).

The Theory of Planned Behavior (TPB) is a consolidated theory in the field of psychology that relates these two variables, attitude, and behavior. According to this theory, individuals use the information that is available in detail, considering the consequences of their actions before deciding whether to behave in a certain way (Ajzen, 2002).

TPB postulates three intention-determining constructs that are conceptually independent (Ajzen, 1991). The first is the attitude towards behavior, it refers to the degree of evaluation that a person has of the behavior in question, favorable or unfavorable (Ajzen, 1988). The second is a social factor called the subjective norm, which refers to perceived social pressure to perform the behavior or not (Ajzen & Fishbein, 1970). The third antecedent of intention is the degree of perceived behavioral control, which refers to the perceived ease or difficulty of performing the behavior. This control can act along with the intention or can act directly on the behavioral realization (Ajzen, 2002). And the behavioral intentions can be understood as a summary of the motivation needed to perform a behavior (Fishbein & Ajzen, 1975).

In terms of sustainable behavior, this means that the stronger attitudes towards sustainable behavior, combined with positive descriptive norms and strong perceived behavioral control (to act sustainably) are, the stronger is the intent to act sustainably. A strong behavioral intention results in more sustainable behavior (Klößner, 2013).

As previously mentioned, the environmental attitude is related to the favorable or unfavorable assessments of the individual in relation to the natural environment considering all the stimuli to which it is exposed (Caixeta, 2010). Environmental behavior, in turn, may be a consequence of the environmental attitude that is characterized by the effective search for the maintenance of the planet's natural resources (Paiva *et al.*, 2017).

As mentioned before, the inspiration for the present research came from the study done by Paiva *et al.* (2017), in which the attitude and the behavior of the public servant of a Federal Institution of Higher Education in Brazil were analyzed, the same one of this study, UFC, in relation to the questions of sustainability. The study showed that myopia of green marketing exists in server attitudes and behaviors, even though the level of myopia has been considered low at all scales.



## 2.2 Cross-Cultural Studies

Research involving more than one culture has evolved from the documentation of cultural differences through the identification of the most significant and relevant dimensions of cultural variability to the use of these dimensions in the creation of new theoretical models (Mota, 2013).

According to Luna and Gupta (2001), cultural studies are presented under two currents. The first seeks a deep understanding of a particular culture, from the understanding of how people see all the phenomena under investigation and the relationships between them. The second current, however, encompasses studies that seek to compare different cultures, looking for universal variables or theories that can be assumed as common to these cultures and their developments. The present study follows the second current.

Cross-cultural studies are important for advancing the concept of the scope and limits of constructs and theoretical structures in different cultural contexts. In addition, this type of study provides an important analysis of the differences and similarities between countries and cultures (Douglas & Craig, 2011).

However, Douglas and Craig (2011) report that within the field of research, national culture is becoming less significant. Smaller, more homogenous groups of individuals within a given geographical location, called a “cult-unit” or unit of culture, allow researchers to capture the “ethnological” nucleus of a given culture, perform determination or control of effect contexts about the dependent variables and make more significant inferences about the influences of culture on behavior.

The cult-unit chosen for the present research was that of Management students. The group was chosen because, regardless of cultural differences, higher education students have similar habits, although the difference in cultures may be a possible gap for the study.

Today, consumer culture and behavior have an unprecedented relationship. Nowhere have these elements had in a relationship of such intense reciprocity. With this, culture has become of great importance within consumer research: it shapes the way people perceive themselves (their *self*) and reflect on consumption habits (Kastanakis & Voyer, 2014).

Another aspect of importance attributed to cross-cultural studies, this time in sustainability, is that in the context of a single country there are factors that tend to be ignored because they are shared, but that, when compared with other contexts, gain great research importance (Ceglia, Lima & Leocádio, 2015). The next section will deal with the methodology adopted by the authors. This methodological choice was considered the best to treat the analyzed phenomenon.

## 3 METHODOLOGY

According to Vergara (2007), researches in the field of Management can be classified by the purposes and the means. Regarding the purposes, the present research is classified as exploratory and descriptive. Exploratory because it will explore a new concept, which is that of consumer myopia. Descriptive, because it aims to describe the sustainable behavior of university students from the business school of the Federal University of Ceará and the business school of the University Hochschule Bremen. As for means, it is characterized as quanti-qualitative research. The two approaches complement each other and combine to enable a better understanding of the phenomenon under study.

The study was developed in five stages. The first one focused on the construction of the bibliographic review. In the second stage, the survey was applied using two online questionnaires, one in Portuguese and one in English, on the Google Docs platform, which were sent to groups in social networks of students who are part of the cult-unit studied. In the third stage, interviews with



students of the two universities were carried out. For the interviews, the researchers chose students who had participated in exchange programs and studied in both universities, students who, therefore, had a better view of both cultures. In the fourth stage, face-to-face observations were made in the two institutions and recorded in a field notebook. In the fifth stage, the statistical analysis of the collected data and content analysis were performed.

The instrument of quantitative data collection was based on the study done by Paiva et al. (2017) and is divided into five blocks. The first consists of a filter that seeks to select only the students from the business schools of the universities; the second was based on questions related to environmental attitudes; the third block contained questions about environmental behavior at the university; the fourth block had questions related to environmental behavior in the respondents' daily life, and the fifth block was related to sociodemographic information.

Frame 1 shows the component items of blocks 2, 3 and 4 of the questionnaire that compose the 3 scales analyzed in the research. For each item, a 5-point Likert scale was used. In the second block a scale of agreement and in the others a scale of frequency.

Frame 1: Itens componentes das escalas de atitudes e comportamentos ambientais.

Attitude 01	The interference of humans in nature often produces disastrous consequences
Attitude 02	Recycling contributes to the reduction of the environmental problems generated by the abusive use of papers
Attitude 03	Governments should monitor and regulate how raw materials are used to make them last longer
Attitude 04	Consumerism aggravates environmental problems
Attitude 05	Separating trash according to type helps to preserving the environment
Attitude 06	There should be stricter control over industries in order to protect the environment from pollution, even if it means rising product prices
Attitude 07	My quality of life depends directly on the consumer goods which I possess
Attitude 08	Whenever possible, I try to preserve natural resources
Attitude 09	Nature has an inexhaustible ability to recover from the damage caused by human actions
Attitude 10	Garbage is responsibility of the urban cleaning service only
Attitude 11	Recycling aluminum cans contributes to environmental problems solutions
Attitude 12	The idea "the balance of nature is very delicate and can be easily disturbed" is pessimistic
Attitude 13	Humans are severely mistreating the environment
Attitude 14	Avoiding waste of natural resources should be a commitment of all
Attitude 15	People should adopt simple attitudes to reduce the daily consumption of water and electricity
Attitude 16	I can do nothing about the problems caused by the excessive use of paper
Attitude 17	Environmental problems are a consequence of modern life
Campus 01	I try to put each type of trash in specific bin
Campus 02	When possible, I use as a sketch the back of the paper that was already used
Campus 03	I avoid wasting office supplies such as paper, paper clips and printer inks
Campus 04	I turn off the ambient lights when there is no one
Campus 05	I print two-sided documents
Campus 06	I turn off the ambient lights when there is no one

Campus 07	When I detect any water leaks in bathrooms, I advise the sector responsible for the maintenance
Campus 08	I close doors and windows when the air conditioning system or heater is on
Campus 09	If possible, I use natural lighting
Campus 10	I use the stairs to move between nearby floors
Campus 11	I make notebooks with used papers
Campus 12	I try to reuse disposable water cups
Campus 13	If possible, I format documents to avoid white space on the sheet of paper and ink-intensive fonts
Campus 14	In the bathroom, I avoid wasting toilet paper and paper towels
Campus 15	When I see paper thrown on the floor, I pick it up and put it in the bin
Campus 16	I deliver papers for recycling in university
Campus 17	I deliver the used batteries at the collect points
Daily 01	I avoid throwing paper on the floor
Daily 02	When I'm at home, I leave the lights on in places that are not being used
Daily 03	When possible, I save water
Daily 04	I put all kinds of trash in any bin
Daily 05	I collaborate with the preservation of the city where I live
Daily 06	As I brush my teeth, I leave the faucet open
Daily 07	When I open the refrigerator, I avoid having the door open for too long, not to expend energy
Daily 08	I put trash on the floor when I do not find trash near by
Daily 09	I avoid wasting electrical energy
Daily 10	I help keep the streets clean
Daily 11	When I'm taking a shower, I turn off the faucet to lather myself
Daily 12	When I do not find a bin nearby, I keep the paper I do not want any more in my pocket (or purse)
Daily 13	I leave electronic equipment on even if no one is using
Daily 14	In my home I separate the garbage according to its type
Daily 15	Avoid waste of natural resources
Daily 16	I often keep packages to use them again

Source: Prepared by authors based in Paiva et al. (2017).

For the application in Germany, the questionnaire was translated into English by the authors and retranslated into Portuguese to check for possible translation errors. English was chosen because the researchers and students of the business school of the University Hochschule Bremen speak and understand the language well. The link to the questionnaire in Germany was released by a UFC volunteer student at the time participating in an exchange program at the University Hochschule Bremen. For the application in Brazil, the questionnaire was published in social networks that are popularly used by students. The link to the questionnaire was disseminated by the authors and volunteers.

UFC has approximately 28,000 enrolled students, distributed among its seven campuses; in addition, it is considered the second-best university in the Northeast and is among the top 10 in Brazil (Paiva et al., 2017). The UFC business school, the Faculty of Economics, Administration, Actuarial and Accounting (FEAAC), has 06 undergraduate courses: Administration, Actuarial Sciences,



Accounting Sciences, Economics, Finance, and Executive Secretariat. These courses have approximately 4,140 students regularly enrolled (Feaac, 2018). A total of 111 valid questionnaires were obtained, representing an error of approximately 2.7% of the sample.

Hochschule Bremen now has approximately 8,700 students enrolled in 66 courses in the fields of engineering, natural sciences, economics, and social sciences. The Hochschule Bremen business school has four undergraduate courses: Accounting, Business Management, Global Management, and International Business. These courses have approximately 3,256 students enrolled regularly (Hsb-Bremen, 2018). A total of 105 valid questionnaires were obtained, representing a rate of approximately 3.2%.

The strategy used for qualitative data collection was the semi-structured interview script developed according to the grand tour model (McCracken, 1988) in which more general questions are asked related to the analytical categories that emerged from the theoretical review. The theoretical review covered cultural aspects and environmental attitudes and behaviors. A great advantage of the semi-structured interview is the versatility. While the researcher can obtain more in-depth results on the interviewees' opinions, he can also direct the questions so that the interview does not deviate from the proposed objectives (Gil, 2008).

A total of 20 interviews were carried out. Of these, 10 were carried out with Brazilian students (5 women and 5 men) from the UFC and 10 interviews were carried out with students from the HSB (5 women and 5 men). All respondents were between 19 and 27 years of age. The interviews lasted about 10 hours and forty-seven minutes. All of them were done in Portuguese, given that the German students spoke and understood Portuguese perfectly. To keep participants anonymous, their names have been replaced by codenames.

Observations were also made for the total of twelve months (six months in each institution). In Germany, the observations were from March to July 2018, during the school term. In Brazil, they were from August to November 2018, paused on account of school holidays and resumed in February and March 2019.

Regarding the data analysis, in the quantitative analysis, statistical descriptive techniques were used as frequency analyzes for the qualified variables of the respondents. Tests of internal consistency of the scale were also performed through the reliability analysis of the items (Hair, Anderson, Tathan, Black & William, 2005). The qualitative analysis was performed through content analysis, organized in three phases: (i) pre-analysis; (ii) exploitation of the material; and (iii) treatment of results, inference, and interpretation (Bardin, 2010).

Table 1 summarizes the main socioeconomic data of the respondents, including the quantity and percentage of each data collection.

Table 1: Socioeconomic profile of respondents

<b>Nationality</b>	<b>Brazilian</b>	<b>Amount (%)</b>	<b>German</b>	<b>Amount (%)</b>
<b>Gender</b>	Female	64 (68%)	Female	67 (64%)
<b>Course</b>	Management	55 (50%)	Global Business Management	42 (40%)
<b>Semester</b>	7º Semester	25 (23%)	8º Semester	40 (38%)
<b>Age</b>	Between 21 e 25 years	51 (46%)	Between 21 and 25 years	84 (80%)
<b>Family income</b>	From R\$4685,01	45 (41%)	Between €2996,01 and €5992,00	44 (42%)

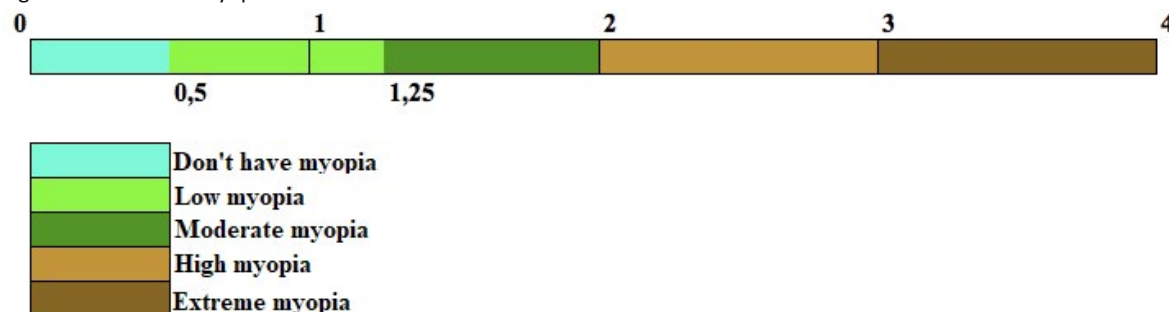
Source: Authors (2019).





To verify the level of myopia, the scale utilized was proposed by Paiva et al. (2017), in which the authors allude to ocular myopia using the refractive error classification. This level can be verified in figure 1.

Figure 1: Consumer Myopia.



Source: Paiva et al. (2017)

The results of the data analysis are presented below separately, showing first the environmental attitude of the students and then the environmental behavior inside the universities and the behavior at home, always comparing the two cultures under study.

## 4 DATA PRESENTATION AND ANALYSIS

The session will analyze the results according to the proposed goal, checking for students' attitudes and behavior.

### 4.1 Student attitudes towards sustainability

To verify the internal consistency of the scale through the reliability analysis of the items, Cronbach's alpha was used in both samples, both for Brazilian students and German students. The alpha coefficient for scale in the German sample was 0.672. In the Brazilian sample, this coefficient was 0.609 - both superior to the acceptability limit 0.60 (Hair et al., 2005), proving the reliability of the data used.

By doing an individual analysis of attitude items, it can be observed that in the item "Environmental problems are a consequence of modern life" both samples had a high level of myopia, being that of Germans ( $M = 2.87$ ,  $sd = 0.72$ ) and of Brazilians ( $M = 2.32$ ,  $sd = 1.18$ ). In another item, a high degree of myopia was observed in the Brazilian sample ( $M = 2.41$ ,  $sd = 1.16$ ) and a moderate degree in the German sample ( $M = 1.93$ ,  $sd = 0.93$ ) said "My quality of life depends directly on the consumer goods which I possess".

These responses show a level of myopia in relation to the consumption of goods. This was observed as a characteristic of the students of the two countries. Both in the interviews and in the observations, it was observed that, although from different cultures, have very similar consumption practices. When talking about the consumption of goods, the environmentally correct attitude tends not to become a behavior. This reinforces the importance of consumption in today's society.

From the descriptive statistical analysis, it was found that, on average, both German students ( $M = 0.77$ ,  $sd = 0.66$ ) and Brazilian students ( $M = 0.96$ ,  $sd = 0.91$ ) had a low level of myopia in relation to environmental attitudes, and that although the Brazilian students have a somewhat higher myopia than the Germans, the results mean that both samples have a long-term view.

Despite very similar results, in interviews, when asked if they thought Germans and Brazilians in general were concerned about the environment, there was disagreement. German students considered their fellow countrymen concerned about the environment, but Brazilian students did not.

I think we care about the environment yes, from what I see in my day-to-day life. But it depends, of course, on the city and the people, because there are places in Germany that are horrible. But yes, most Germans are concerned about the environment (German man 3)

I think... culturally, Brazil has never put the environment as a priority, the environment was never a concern for Brazilians... (Brazilian woman 2)

Regarding the factorial analysis, 6 items explain 88.1% of the total variance (Attitude 02, Attitude 05, Attitude 13, Attitude 16, Attitude 17), it was observed that in the German sample. While in the Brazilian sample, 5 items explain 61.21% of the variance (Attitude 03, Attitude 04, Attitude 06, Attitude 14, Attitude 15). This shows that Brazilian students place the responsibility of being sustainable on others, that the government needs to take better care of this issue and that people in general need to be more sustainable. For German students, the environment is being severely mistreated by humans, and it is necessary that action regarding the environment be taken by all people. There are two different cultural values, individualism and collectivism. In fact, Brazilian individualism was cited in interviews.

I think Brazilians are sometimes a bit selfish, right? I think the average Brazilian is very individualistic, he's worried about himself (Brazilian man 4).

I believe Brazilians are very individualistic... (Brazilian man 3).

Hofstede (1984) was one of the first authors to treat these values in different cultures. Individualism consists of carrying out actions aimed at its well-being, without being subject to the general norms. In the survey, the Brazilians were more individualistic. Collectivism is another basic cultural element of human nature that exists as the inverse of individualism. Collectivism consists of actions aimed at the well-being of society in general, without being subject to individual desires.

#### 4.2 Environmental behavior of students in universities

Cronbach's alpha in the two samples was above the acceptability level. The alpha coefficient for scale in the German sample was 0.720, higher than the 0.60 acceptability limit (Hair et al, 2005), proving the reliability of the data used. In the Brazilian sample, this alpha was 0.828.

By doing an individual analysis of the behavioral items inside the university, it can be observed that in the item "I deliver papers for recycling" both samples had a high degree of myopia, being that of the Germans ( $M = 2.40$ ,  $sd = 1.16$ ) and Brazilians ( $M = 2.59$ ,  $sd = 1.24$ ). In the Brazilian sample, another item had high myopia degree: "I deliver used batteries at collection points" ( $M = 2.72$ ,  $sd = 2.46$ ). In the German sample, two more items with a high level of myopia were observed: "I make notebooks with used papers" ( $M = 2.40$ ,  $sd = 1.21$ ) and "If possible, I format documents to avoid white space on the sheet of paper and ink-intensive fonts" ( $M = 2.07$ ,  $sd = 1.30$ ).

This quantitative analysis showed myopia of the German and Brazilian students regarding the care with the papers in the university. However, this concern was observed in the qualitative analysis among German students. In the observations, it was seen that the Germans separate their garbage into four types: non-recyclable garbage; organic waste; paper and cardboard; and light metals and plastics. This garbage is collected and taken to recycling centers. That is, there is no con-

cern in delivering documents for recycling directly or reusing them because they know the paper will be recycled.

In other words, it would be a mistake to point out that German students have a high level of myopia. Brazilian myopia may be the result of lack of structure, as can be seen in the following section.

Here at UFC, I do not remember a specific place where you can put your used stuff like, photocopies, old tests, so I leave it at home [...] For batteries, you hardly ever see collection points in your day to day life, they usually exist only in electronics stores... (Brazilian woman 3)

From the descriptive statistical analysis, it was found that, on average, both German students ( $M = 1.41$ ,  $sd = 0.96$ ) and Brazilian students ( $M = 1.27$ ,  $sd = 1.08$ ) had myopia in relation to environmental behavior. The results show that both samples have a relatively long-term view of moderate myopia.

As is widely known in theory, there is a gap between attitude and behavior within the university, causing the students' environmental attitude not to become behavior within the university.

In the factorial analysis, it was observed that in the German sample, 5 items explain 83.45% of the total variance (University 03, University 05, University 07, University 14, University 15) while in the Brazilian sample, 5 items explain 63.10% of the variance (University 02, University 09, University 13, University 15, University 16). These results show that Brazilian students are concerned about the issue of the paper use both for financial and environmental reasons, in addition to worrying about littering (or discarding papers in the appropriate place) in the campus environment.

...we try to be aware about this (paper) because we do a lot of projects, and the fewer pages we print, the better for us financially... (Brazilian man 5)

For German students, the issue of minimizing energy waste was very consistent, which can be observed below.

Almost everything in our country is powered by electricity and we are taught at school to use only what is necessary, to avoid wastes due to the environment (German woman 1).

One reason for this kind of attitude comes from the past. The idea of using only the necessary is linked to the country's history, this is part of German culture. After suffering with the lack of resources in the post-war periods, the German people ended up creating a strong culture of reuse and resource saving.

### 4.3 Environmental behavior of students in daily life

Cronbach's alpha in the two samples was above the acceptability level. The alpha coefficient for scale in the German sample was 0.662, higher than the 0.60 acceptability limit (Hair et al, 2005), proving the reliability of the data used. In the Brazilian sample, this alpha was 0.807.

By doing an individual analysis of the items related to the behavior of university students on the daily, it was observed that only the item "In my home I separated the garbage according to its type" from the Brazilian sample had a high degree of myopia ( $M = 2.91$ ,  $sd = 1.24$ ). In the German sample, high myopia was not found in any item, but one item was at the threshold of the scale, which was the statement "When I'm taking a shower, I turn off the faucet while I lather myself" ( $M = 2.0$ ,  $sd = 1.10$ ). A point of convergence of the two samples was in relation to the lower level of my-



opia: the item “I avoid throwing paper on the ground” obtained the lowest level of myopia in both countries, being Germany ( $M = 0.07$ ,  $sd = 0.25$ ) and in Brazil ( $M = 0.14$ ,  $sd = 0.50$ ).

The qualitative analysis showed that, in Bremen, the differentiation of types of garbage is mandatory, there are fines and other forms of punishment for people who do not abide, so this became a consolidated practice. In Fortaleza, there are still no consolidated laws in that regard. In addition, in the interviews and observations, few incentives for the separation of garbage were observed, which favors this myopia. In other words, the issue of Brazilian myopia can be a structural problem.

The question of German semi-myopia can be answered by the location of the city chosen for the study, the city of Bremen.

We do not use a lot of water, but we do not do too much to save money ... We have a river that crosses the whole city, so I think we're fine with water (laughs) (German woman 4)

On the other side of the comparison, we have Fortaleza, a city in northeastern Brazil. The northeastern region of Brazil has historically been stricken by severe droughts. The scourge of droughts has caused the region to create a culture of water rationing, treating it as one of the most precious assets.

From the descriptive statistical analysis, it was found that, on average, both German students ( $M = 0.99$ ,  $sd = 0.89$ ) and Brazilian students ( $M = 1.05$ ,  $sd = 0.98$ ) had a low level of myopia in relation to environmental behaviors in their daily life. Brazilian students have slightly higher myopia, but both samples have a long-term vision.

In qualitative analysis, this factor was also observed. Respondents showed a long-term concern for the environment. Students from both countries do not have certain behaviors due to environmental impact, such as littering throwing trash on the street. They also try to save resources due to the environment and financial savings.

In the factorial analysis, it was observed that in the German sample, 5 items explain 80.57% of the total variance (Daily 08, Daily 09, Daily 12, Daily 14, Daily 16), while in the Brazilian sample, 4 items explain 62.64% of the variance (Daily 04, Daily 08, Daily 12, Daily 16). In both countries, a concern with the garbage was observed. However, as previously reported, the concern of German students with the correct separation of garbage for recycling is greater than that of Brazilian students due to various factors such as legislation and the culture itself.

#### **4.4 Analysis of the gap between attitudes and environmental behaviors**

To analyze the possible gap between attitude and sustainable behavior, two analyzes of Pearson's correlation between attitudes, behavior on campus and behavior in daily life, were carried out in each of the samples. These analyses were performed from the simple means between the items listed in each of the three scales.

According to Field (2009), the correlation coefficient should vary between -1 and +1. If the coefficient is a positive number, the relationship between these constructs will be positive; if it is equal to zero it will be neutral; and if the coefficient is negative, the relation will be negative. The level of the relationship between these constructs: from 0.1 to 0.3 is a relation with a small degree; between 0.31 and 0.5, mean degree; and above 0.5, a large degree. Tables 2 and 3 present the general correlations between the scales.



Table 2: Correlation Brazil		
Pearson's correlation between the Scales of Attitudes and Environmental Behaviors		
Scale	Campus behavior	Daily behavior
Attitude	0,476**	0,493**
Campus behavior		0,709**
**. The correlation is significant at the 1% level (2 extremities). Source: Research data.		

Table 2 shows two correlations of medium degree and one of a high degree of relationship. A high degree correlation is noted between Daily behavior and Campus behavior, while the two middle degree correlations are between Attitude and Daily behavior and Attitude and Campus behavior. Moreover, the variables associated with attitude and environmental behaviors showed positive correlations in the Brazilian sample.

In Table 3, two correlations of medium degree and one of a low degree of relationship can be observed. A low degree correlation is noted between Attitude and Campus behavior, while the two middle degree correlations are between Attitude and Daily behavior and Daily behavior and Campus behavior.

Table 3: Correlation Germany		
Pearson's correlation between the Scales of Attitudes and Environmental Behaviors		
Scale	Campus behavior	Daily behavior
Attitude	0,289**	0,545**
Campus behavior		0,646**
**. The correlation is significant at the 1% level (2 extremities). Source: Research data.		

There is then a gap between attitudes and environmental behaviors in both students in Germany and students in Brazil. This reveals that although students possess a certain level of pro-environmental attitude, there are non-environmentally-friendly behaviors that are carried out by them in both countries.

That is, attitude will not always directly reflect behavior. The students possess a high level of environmental attitude but the environmental behavior smaller than the level of attitude. One of the interviewees points this out when reporting:

I mean, here in Brazil, I wanted to have this (sustainable) behavior, but I do not have the support. How am I going to do a selective differentiation if I do not have selective collection?  
(Brazilian woman 4)

As previously shown, a positive attitude towards a behavior does not necessarily guarantee that a person will perform such behavior, there are other components that interfere. According to Ajzen (1991), the attitude acts along with the subjective norm and perceived behavioral control in the behavior decision.

Two elements were perceived as important to make a positive attitude be converted into behavior. In Germany the element is within the subjective norm, it is the culture. If people have a



culture of caring for the environment, they are more likely to behave in an environmentally-friendly way. This strengthens the long-term vision.

The other important element is part of the perceived behavioral control, it is the structure. If people have the structure to carry out the environmental behavior, it is more likely that they will perform this behavior. Brazil has a structure deficit; this favors the students to have greater myopia in the long term.

## 5 CONCLUSIONS

The objective of the study was to verify the attitude and behavior of Brazilian and German Management students in relation to sustainability issues. To verify this level of myopia, the study was inspired by the scale proposed by Paiva et al. (2017). The study found that there are different levels of myopia in relation to sustainability issues, both in students in Germany and in students in Brazil.

The level of myopia was considered low in two scales, in the Environmental Attitude Scale and in the Environmental Behavior Scale on Daily, since they presented values 0.77 and 0.99 respectively in Germany and 0.96 and 1.05 in Brazil. On a scale the level of myopia was considered moderate: in the Environmental Behavior Scale at the University, because it presented a value of 1.41 in Germany and 1.27 in Brazil.

Through the quantitative and qualitative analyses, it was verified that myopia in relation to environmental attitudes increases when the questions directly affect consumption. As Ajzen (1991) states, attitude is one of the most important constructs for predicting behavior. When it comes to consumption, students forget environmental attitudes. This is because student consumption is directly related to well-being (Goldschmidt, 1972), so it becomes more comfortable to maintain this myopia in consumption in relation to sustainability.

In the quantitative analysis, it was observed that both German students and Brazilian students present a moderate degree of myopia in relation to the environmental behavior inside the universities. However, the qualitative analysis found that this myopia does not exist among German students. The items of quantitative research do not fit the reality of German students, most were about reuse and disposal. As Ibiapina (2019) reports, there is a strong environmental concern regarding waste in Germany, there are regulations and social pressure for pro-environment behavior. Brazilian myopia occurs due to the lack of structure and the absence of a culture focused on more sustainable behaviors.

It was verified that the Brazilian and German students have low myopia in relation to environmental behavior in daily life: this behavior is more related to resource saving. In that regard, students from both countries were similar. They care about their daily behaviors; they know that their behavior directly affects the environment (Klößner, 2013). In Germany, the resource economy is cultural, passed down from generation to generation. This culture was developed especially in the post-war periods with the restrictions imposed on the country (Ibiapina, Lima, Leocádio & Lima, 2019). On the other side of the comparison, we have Fortaleza, a city in northeastern Brazil. The scourge of northeastern droughts has led the region to develop a culture of water and resource saving.

There is a gap between attitudes and environmental behaviors (Ajzen, 1991) in both German and Brazilian students in a very similar way. This gap was different in both countries. However, behavior within the campus and daily behavior in the two countries were the relations that had the highest degree in both countries. This is because they are countries of very different cultures. Stu-



dents have different behaviors because they belong to different cultures (Hofstede, 1984; Ibiapina, 2019; Kastanakis; Voyer, 2014).

The present study cannot generalize the results for the universe of Brazil and Germany, one of the limitations of the study being the cult-unit researched. Only Management students of the two countries were studied, besides being sampled for convenience. For future studies, the authors suggest that research should be done at other universities or other countries. Another suggestion is to analyze the myopia of higher education professors.

## REFERENCES

- AJZEN, I. (1988). **Attitudes, personality and behavior**. Chicago: Dorsey Press.
- AJZEN, I. (1991). The theory of planned behavior. *organizational behavior and human. Decision Processes*, 50, 179-211.
- AJZEN, I. (2002). Residual Effects of Past on Later Behavior: Habitual and Reasoned Action Perspectives. *Personality and Social Psychology Review*, 6(2), 107-122.
- AJZEN, I., & Fishbein, M. (1970). The prediction of behavior from attitudinal and normative variables. *Journal of Experimental Social Psychology*, 6, 466-487.
- ANVAR, M., & VENTER, M. (2014). Attitudes and Purchase Behaviour of Green Products among Generation Y Consumers in South Africa. *Mediterranean Journal of Social Sciences*, 5(21), 183-194.
- BARDIN, L. (2010). **Análise de conteúdo**. 70 Ed. Lisboa/Portugal: LDA.
- BARTH, A., ADOMSENT, M., FISCHER, D., RICHTER, S. & RIECKMANN, R. (2014). Learning to change universities from within: a service-learning perspective on promoting sustainable consumption in higher education. *Journal of Cleaner Production*, 64, 72–71.
- BEDANTE, G. (2004). **A influência da consciência ambiental e das atitudes em relação ao consumo sustentável na intenção de compra de produtos ecologicamente embalados**. Masters dissertation, Universidade Federal do Rio Grande do Sul, Porto Alegre, RS, Brazil.
- BREYER, K, & FREIN, M. (2009). **Por que uma “Alemanha sustentável”?** Retrieved May 14, 2017, from [https://www.brot-fuer-die-welt.de/fileadmin/mediapool/2\\_Downloads/Sonstiges/Problemaufriss\\_pt.pdf](https://www.brot-fuer-die-welt.de/fileadmin/mediapool/2_Downloads/Sonstiges/Problemaufriss_pt.pdf)
- CAIXETA. D. (2010). **Atitudes e comportamentos ambientais: um estudo comparativo entre servidores de instituições públicas federais**. Masters dissertation, Universidade de Brasília, Brasília, DF, Brazil.
- CEGLIA, D., LIMA S., & LEOCÁDIO, A. (2015). An Alternative Theoretical Discussion on CrossCultural Sustainable Consumption. *Sustainable Development*, 23, 414–424.
- DOUGLAS, S. P.; & CRAIG, C. S. (2011). Convergence and divergence: Developing a semiglobal marketing strategy. *Journal of Research in Marketing*, 19(1), 82-101.
- DOYLE, R. & DAVIES, A. R. (2013). Towards sustainable household consumption: exploring a practice oriented, participatory backcasting approach for sustainable home heating practices in Ireland.



**Journal of Cleaner Production**, 48, 260–71.

- FEAAC. (2018). **Histórico e missão**. Retrieved July 03, 2018, from <http://www.feaac.ufc.br/sobre-a-feaac/12-historico-e-missao>
- FERRAZ, S. F., ROMERO, C. B., LAROCHE, M., REBOUÇAS, S. M., REINALDO, H. O., & COSTA, J. S. (2013, september). Mind the Gap: Um Estudo Cross-Cultural sobre Atitude, Intenção e Comportamento de Compra de Produtos Verdes. **Event proceedings from Encontro dos programas de pós-graduação em Administração**, Rio de Janeiro, RJ, Brazil.
- FISHBEIN, M.; AJZEN, I. (1975). Belief, Attitude, Intention and Behavior: An Introduction to Theory and Research. **Reading**, MA: Addison-Wesley.
- GOLDSCHMIDT, P. (1972). Marketing e o bem-estar da sociedade: uma perspectiva para os países subdesenvolvidos. **Revista de Administração de Empresas**. 12(3), 7-15.
- HAIR, J., ANDERSON, E., TATHAN, L., BLACK., R., & WILLIAM C. (2005). **Análise Multivariada de dados**. Tradução Adonai Schlup Sant'Anna e Anselmo Chaves Neto. 5. ed. Porto Alegre: Bookman.
- HOFSTEDE, G. (1984). **Culture's consequences**: International differences in work-related values. Newbury Park, CA: Sage.
- HSB-BREMEN. (2018). **Geschichte**. Retrieved July 03, 2018, from <http://www.hs-bremen.de/internet/de/hsb/geschichteHsb/>
- IBIAPINA, I. (2019). **Componentes culturais e as práticas de descarte de resíduos sólidos no Brasil e na Alemanha**. Masters dissertation, Universidade Federal do Ceará, Fortaleza, CE, Brazil.
- IBIAPINA, I., LIMA, S., LEOCÁDIO, A., & LIMA, D. (2019) Cultural Dynamics and Sustainable Consumption: a Perception of Brazilian Students in Germany. **Event proceedings from International Conference in Management**, São Paulo, SP, Brazil.
- IKECHUKWU, F., POWEI DAUBRY, M., & IRUK'A, H. (2012). Consumer Attitude: Some Reflections on Its Concept, Trilogy, Relationship with Consumer Behavior, and Marketing Implications. **European Journal of Business and Management**, 4(13), 38-50.
- JANKE, J., & HANDY, S. (2019). How life course events trigger changes in bicycling attitudes and behavior: Insights in to causality. **Travel Behaviour and Society**, 16, 31-14.
- JUSTO, M. (2016). **O segredo que faz da Alemanha a economia mais sólida do mundo**. BBC News. Retrieved May 14, 2018 from [http://www.bbc.com/portuguese/noticias/2016/01/160131\\_segredo\\_alemanha\\_economia\\_ab](http://www.bbc.com/portuguese/noticias/2016/01/160131_segredo_alemanha_economia_ab)
- KASTANAKIS, M., & VOYER, B. G. (2014). The effect of culture on perception and cognition: a conceptual framework. **Journal of Business Research**, 67(4), 425-433.
- KHAN, M. (2007). **Consumer Behaviour**. New Delhi: New Age International.
- KLÖCKNER, C. (2013). A comprehensive model of the psychology of environmental behaviour: A meta-analysis. **Global Environmental Change**, 23(5), 1028-1038.
- LEVITT, T. (1960). Marketing myopia. **Harvard Business Review**, 38. 45-56.





- LOREK, R. & FUCHS, D. (2013). Strong sustainable consumption governance e precondition for a degrowth path? **Journal of Cleaner Production**, v. 38, p. 36–43, 2013.
- LUNA D., & GUPTA S.F. (2001) An integrative framework for cross-cultural consumer behavior. **International Marketing Review**, 18(1), 45–69.
- MCCRACKEN, G. (1988). **The long interview**. Londres: Sage Publications.
- MOTA, M. O. (2013). **Dimensões culturais e benefícios relacionais: uma pesquisa transcultural no contexto do consumo de serviços de brasileiros e canadenses**. Doctorate thesis, Universidade de Fortaleza, Fortaleza, CE, Brazil.
- MOTKE, F., ROSA, L., LENGLER, L., MAINARDI, J., & TREVISAN, M. (2016). Consumer values for sustainability: a study with the students from accounting of Federal University of Santa Maria. **Rev. Adm. UFSM**, 9 special issue, 107-121.
- OTTMAN, J. A., STAFFORD, E. R., & HARTMAN, C. L. (2006). Avoiding green marketing myopia: ways to improve consumer appeal for environmentally preferable products. **Environment**, 48(5), 22-36.
- PAIVA, M., ROMERO, C., OLIVEIRA, L., & GUIMARÃES, D. (2017). Consumer myopia: uma análise da atitude e do comportamento sustentável de servidores de instituições federais de ensino superior. **Revista de Administração da UFSM**, Santa Maria, v. 10, Ed. Especial, p. 26-43.
- SHETH, J., GARDNER, D. M., & GARRET, D. E. (1988). **Marketing Theory: evolution and evaluation**. John Wiley & Sons.
- SILVA, F. (2012). **O papel da sustentabilidade ambiental para o consumidor brasileiro: um estudo no sistema agroindustrial de bonivicultura de corte em Campo Grande-MS**. Masters dissertation, Universidade Federal do Mato Grosso do Sul, Campo Grande, MT, Brazil.
- TEIXEIRA, L., SILVA-FILHO, J., & MEIRELES, F. (2016). Consciência e Atitude Ambiental em Estudantes de Instituições de Ensino Técnico e Tecnológico. **Revista Eletrônica em Gestão, Educação e Tecnologia Ambiental**, 20(1), 334–350.
- VERGARA, S. C. (2007). **Projetos e relatórios de pesquisa em administração**. 9 ed. São Paulo: Atlas.
- WARDE, A. (2014). After taste: Culture, consumption and theories of practice. **Journal of Consumer Culture**, 14(3), 279–303.



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1. Definition of research problem	√	√	√	
2. Development of hypotheses or research questions (empirical studies)	√	√	√	
3. Development of theoretical propositions (theoretical work)	√		√	√
4. Theoretical foundation / Literature review	√	√		
5. Definition of methodological procedures	√			√
6. Data collection	√			
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8. Analysis and interpretation of data	√			√
9. Critical revision of the manuscript	√	√	√	√
10. Manuscript writing	√			
11. Other (please specify)				

