Handbook T-XI
CIERMMI Women in Science
Social Sciences

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ECORFAN CIERMMI Women in Science

Volume XI

The Handbook will offer volumes of selected contributions from researchers who contribute to the scientific dissemination activity of the Colegio de Ingenieros en Energías Renovables de Querétaro A.C. in their areas of research in Social Sciences. In addition to having a total evaluation, in the hands of the directors of the Colegio de Ingenieros en Energías Renovables de Querétaro A.C., the quality and timeliness of its chapters, each individual contribution was refereed to international standards (RESEARCH GATE, MENDELEY, GOOGLE SCHOLAR and REDIB), the Handbook thus proposes to the academic community, recent reports on new developments in the most interesting and promising areas of research in the Social Sciences.

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CIERMMI Women in Science T-X1
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Prologue

Just 5 years ago, in 2016, the United Nations General Assembly established February 11 as the International Day of Women and Girls in Science, with the aim of first recognizing the existing gender gap in the scientific field and, then, developing actions aimed at achieving equal and full participation of women and girls in the various fields of science. In this way, it seeks to contribute to the fulfillment of Sustainable Development Goal 5, which aims to achieve gender equality and empower women and girls in all spheres of life by 2030.

In this sense, the publication of this volume "CIERMMI Women in Science TXI Social Sciences", as well as the entire collection of Handbooks "CIERMMI, Women in Science", constitute a concrete mechanism that makes visible the research work that we women do, and opens opportunities to publicize their scientific production, highlight new emerging issues that we address as well as the innovative approaches we develop. This book includes the results of research carried out in the field of Social Sciences that analyze diverse facets of contemporary reality: digital cities and development, human sustainability, strategic governance for security, university trajectories of young indigenous people, commercialization in times of pandemic, ethical dilemmas of vaccines, entrepreneurship, academic stress.

It should also be noted that this research, as well as the preparation of these articles, has been carried out in the context of the global pandemic of Covid-19 which, as recognized by the United Nations, has affected women in general; in the particular case of women scientists, the negative impact is greater in those who were beginning their careers, which widens the existing gender gap. Therefore, it is urgent to recognize that women are also "the backbone in the recovery of communities" (UN, 2021), in this case scientific communities. Encouraging their full participation with projects such as this book contributes to broadening diversity in research, as well as to developing new perspectives in the understanding of social problems and the search for solutions.

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Introduction

The Colegio de Ingenieros en Energías Renovables de Querétaro A.C. (Colegio de Ingenieros en Energías Renovables de Querétaro A.C.) (CIER-QUERÉTARO), and its chapters of Renewable Energy, Industrial Maintenance, Mechatronics and Computer Science, technical sponsors of the International Interdisciplinary Congress on Renewable Energy, Maintenance, Mechatronics and Computer Science, CIERMMI 2021 has as general objective to establish a space for discussion and reflection on issues related to the areas of: renewable energy, industrial maintenance, mechatronics and computer science with the participation of students, professors, researchers and national and international speakers, promoting the formation and consolidation of research networks. Contributing to provide a space for dissemination and discussion of the presentations of students, graduates, academics and researchers, representatives of various higher education institutions, research centers in our country, as well as educational institutions beyond our borders. Promoting the formation of research networks between different institutions. Offering a space for undergraduate, master's, doctoral and postdoctoral students, in which they can present the progress of the research they carry out in their different educational centers. Providing a space in which study groups and members of academic bodies, linked to the curricular program of renewable energy, industrial maintenance, mechatronics and computer science careers, can present the research work developed within their institution and in collaboration with other national or international educational institutions. Establishing a training space for the attendees, through the development of specific lectures and conferences.

This volume, Women in Science T-XI-2021 contains 10 refereed chapters dealing with these issues, chosen from among the contributions, we gathered some researchers and graduate students from the 32 states of our country. We thank the reviewers for their feedback that contributed greatly in improving the book chapters for publication in these proceedings by reviewing the manuscripts that were submitted.

As the first chapter, *Gallegos & Martínez* present Indigenous youth in the Monterrey Metropolitan Area. Risk factors for their university trajectories, as second chapter, *Cisneros-, Durán, Ortiz and Cruz* will talk about The use of alternative media as means of social insertion to generate corporate social responsibility "Ambient Media y Marketing de Guerrilla" as third chapter, *Escamilla, Bada and Estrada* present Capacities and abilities: factors of entrepreneurial intention among young students, as fourth chapter, *Almada, Rodríguez and Almada*, propose Sustainability: notes on human relationship with the environment in Baja California Sur, as the fifth chapter, *Garay, Medina, Medina and Saldate*, perform Interactions of the digital creative city with the engines of the development of Guadalajara and the fulfillment of its goals, as the sixth chapter, *Cobos*, developed Ethical-legal dilemmas of the application of vaccines, as seventh chapter, *Montes, Pérez and Velázquez*, discussed Academic stress of students of the bachelor's degree in administration of the Tecnológico de Estudios Superiores de Villa Guerrero, in eighth chapter, *Ancer & Villarreal* presented Strategic alliances in governance for the resolution of the public problem of citizen security and public security: analysis of the case of the European Union, Colombia and Mexico, as ninth chapter, *Salgado, Aguilar and Cruz*, performed Correlation between attitude and physical activity levels in gym users at a private university and as last chapter, *Gonzalez, Martinez and Guzman*, focus on Marketing for the recovery of customers lost in time of pandemic in the Municipality of Tampico, Tamaulipas.

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Chapter 1 Indigenous youth in the Monterrey Metropolitan Area. Risk factors for their university careers

Capítulo 1 Jóvenes indígenas en la Zona Metropolitana de Monterrey. Factores de riesgo para sus trayectorias universitarias

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Abstract

This investigation's objective is to understand the risk factors that play a role in the formation and consolidation of college-level educational trajectories of indigenous youth. Via a qualitative approach based on the biographical method and in-depth interviews, we reconstructed the life courses of 10 indigenous young adults who study, completed or had been dropped out their university careers at conventional universities in the Monterrey Metropolitan Area. We find that the lack of cultural, economic, and emotional capital generates risk factors during pre-University education. These factors are strengthened or minimized by the characteristics of the family environment and the pre-University educational trajectories. Therefore, once enrolled in university, indigenous students have differing types of conditioning that either hinder or facilitate their university trajectories. We conclude that, the risk factors that threaten university educational trajectories are the low volume of emotional, cultural, and economic capital. In addition, the lack of social capital difficult that youth people create the support networks that make it possible to reduce the threats associated with the three types of capital. Therefore, it becomes a key risk factor that increases the chances of abandonment of school.

Higher education, Indigenous youth, Educational trajectories

Resumen

El objetivo general de la investigación es comprender los factores de riesgo que intervienen en la conformación y consolidación de las trayectorias educativas universitarias de jóvenes indígenas. A través de un trabajo cualitativo basado en el método biográfico y entrevistas a profundidad se reconstruyeron los cursos de vida de 10 jóvenes indígenas universitarios que estudian, finalizaron o que truncaron su carrera universitaria en la Zona Metropolitana de Monterrey. Se encontró que el bajo volumen de capital cultural, económico y emocional genera factores de riesgo durante la formación preuniversitaria. Estos factores se minimizan o recrudecen en función de las características familiares y las trayectorias preuniversitarias. Por tanto, al ingresar a la universidad las y los jóvenes presentan diferentes tipos de condicionamientos que dificultan o facilitan sus trayectorias universitarias. Se concluye que, los factores de riesgo que amenazan las trayectorias educativas universitarias son el bajo volumen de capital emocional, cultural y económico. Además, la falta de capital social dificulta que las y los jóvenes creen redes de apoyo que les permitan reducir las amenazas asociadas a los tres tipos de capitales. Por lo tanto, la falta de capital social se convierte en un factor de riesgo clave que incrementa las posibilidades de abandono escolar.

Educación superior, Jóvenes indígenas, Trayectorias escolares

1.   Introduction

Higher education in Mexico continues to be accessible only to privileged sectors of the population. In an Oxfam study, Solís et al. (2019) find that 25% of the non-indigenous population have university degrees, while only 8% of the indigenous population have access to higher education. The number drops to 6% in the case of populations who, in addition to identifying themselves as members of a certain indigenous group, speak the corresponding language. This low access to higher education becomes even more complicated when ethnic ascription intersects with other factors such as socioeconomic class, skin-tone, and gender (Solís et al., 2019). The percentage of indigenous youth enrolled in universities across the country has risen since 2000, when indigenous students represented only 1% of total enrollment (Didou, 2018). Yet, the disparity in enrollment between non-indigenous and indigenous populations continues to be alarming.

Additionally, although the Mexican government has made efforts to increase access to higher education in indigenous young adults, it is important that it also implement strategies that contribute to student success and completion programs, not just enrollment (Buendía, 2021). For this reason, studies that explore the different experiences and trajectories of indigenous students at university are especially relevant. Some of this research has focused on how the socialization process in university influences the change or reconfiguration of ethnic identity (Gallegos et al., 2020; Mendoza, 2018; Meseguer, 2015; Pérez, 2015). Other investigations center on the conflicts indigenous students have with their non-indigenous peers (Cruz & Sartorello, 2013; Ortelli & Sartorello, 2011).

Additionally, studies have documented the experiences of violence and discrimination indigenous young adults face (Bermúdez, 2013; Chávez, 2008; Czarny, 2012; Funtes, 2012), and how these hinder their success and permanence at university, and sometimes lead to them abandoning their studies. Due to the importance of higher education and the adverse conditions indigenous youth face when accessing it, there are also studies that explore their educational trajectories, focusing primarily on the factors that threaten or hinder university enrollment (Carnoy et al., 2002; Casillas et al., 2015; Fernández et al., 2006). For example, in a study with students from the Universidad Pedagógica Nacional (National Pedagogic University, UPN by its Spanish acronym), Hernández (2013) found that the lack of infrastructure and adequate teaching personnel during the pre-University education led to a learning gap that hindered enrollment.

In that same vein, the work of Bustillos et al. (2018) and Gómez et al. (2018) identify that indigenous youth start university education with less knowledge and skills in the field of information technology. This hinders their ability to perform certain tasks and affects their academic success. It has also been found that the personal and academic challenges indigenous youth experience affect how they view the possibility of continuing their studies and influences their choice of university and professional career (Pérez, 2019).

The described research provides valuable information that allows us to identify not only the different experiences of indigenous youth at university, but also the risk factors that contribute to the abandonment of their studies. It is identified that indigenous youth with a marginalized social background, meaning with a reduced economic and cultural capital and with parents whose average school years oscillate between five and eight, present higher social disadvantages. These become risk factors to their enrollment, permanence, and eventual completion of higher education degrees. Nonetheless, it is also important to study why indigenous youth with similar socio-economic backgrounds can have different educational trajectories at the university level. In other words, it is important to identify what risk factors are present or absent in cases with differing trajectories, and with that, have a holistic view of the problem.

Until now, most of this research has focused on intercultural universities located in the center and south of Mexico (Bermúdez, 2017). These institutions have the greatest number of indigenous student enrollment. Yet, it is critical to diversify the geographic scope of this body of work, as well as include universities with conventional pedagogical models. These institutions also receive indigenous enrollment, especially those located in states that have become migratory destinations for both the general population, but especially the indigenous population, as is the case with Nuevo León (Sordo, 2020).

Indigenous students are a minority in Nuevo León's universities. Yet, this should not preclude them from their right to access policies that can benefit the success of their educational trajectories. In order for that to happen, further knowledge on the issues present is required. From this need stems the principal objective of this investigation: To identify the risk factors involved in the conformation and abandonment of university-level educational trajectories of indigenous youth in Nuevo León.

This study is organized into five sections: The first is composed of a brief contextualization of Nuevo León, focusing on the Metropolitan Area of Monterrey (AMM, by its Spanish acronym). The second handles the theoretical background utilized to approach the issue of topic; this study uses the theory of habitus of Bourdieu as a theoretical anchor.

The third section details the methodological strategies utilized before, during, and after data collection, including the principal characteristics of the participating individuals. The fourth section details the study's results, focusing on the risk factors identified and how these relate to economic, cultural, emotional, and social capital, as well as how they impact a student's educational trajectory at university. The final section corresponds to the study's conclusions.

Identifying the risk factors that are present or absent in the consolidation of university-level educational trajectories for indigenous youth in Nuevo León contributes to our understanding of higher education in Mexico. This is especially true considering that most of the research regarding this topic has been limited in geographic scope within the country, and has focused mostly on intercultural universities (Bermúdez, 2017).

Creating a more robust understanding of the experiences of indigenous students at universities with conventional educational models can contribute towards the consolidation of programs and policies that not only seek to increase indigenous enrollment at universities, but also help ensure student permanence and academic success.

2.   Social context

According to the National Institute of Statistics and Geography (INEGI, by its Spanish acronym) Nuevo León has a population upwards of 5.8 million (INEGI, 2021). The majority of this population is concentrated in the municipalities that form the Metropolitan Area of Monterrey (AMM, by its Spanish acronym), where the main industrial and business centers are located, as well as residential spaces and academic institutions.

Nuevo León has a Human Development Index score of 0.699 in access to educational services and a score of 0.905 in access to healthcare, ranking it second place in Mexico and above national averages (INEGI, 2017). The state's high scores in these indicators might contribute to, it being the fourth state to receive the most temporary and permanent migrants, coming after Quintana Roo, Baja California, and Queretaro (INEGI, 2021).

Particularly, indigenous migration has increased in the last couple of years. Of Nuevo León's total population, 1.4% speak an indigenous language, meaning the state has an indigenous population of almost 78 thousand people (INEGI, 2021). Nonetheless, if indigenous households, not language, is considered as a criteria factor, the indigenous population increases to 160 thousand people. Jáuregui (2017) points out that, if the last two criteria are considered alongside that of indigenous auto-adscription, the population quadruples, totaling at around 650 thousand, composing 13% of the population of Nuevo León.

It is important to note that 26% of Nuevo León's indigenous population falls between the ages of 20 and 29, meaning Nuevo Leon has a majoritively young indigenous population (INEGI, 2021). Available data indicates that the most spoken indigenous language is Náhuatl, being spoken by almost 60% of the population, followed by Tenék (Huasteco) and Hña hñu (Otomí). Most of the population is concentrated in the municipalities of Monterrey, García, Escobedo and San Pedro Garza García (Durin et al., 2007). Occupation-wise, on average, only 20% of the population that speaks an indigenous language works as a professional. The rest are employed in the service sector, in commerce or informal business, and have salaries of mid to low remuneration (Ávila & Jáuregui, 2019).

In respect to education, policies focused on the indigenous school population came into force at the end of the 1990s. These policies focused only on schools that had been identified to have students that spoke an indigenous language (Durin, 2007). A year after the initial implementation, these efforts were further formalized under a program pushed for by the Department of Indigenous Education and expanded to other primary schools with indigenous students that had not been previously targeted.

The program's objective is to promote and value the linguistic diversity in Nuevo León. Bilingual teaching personnel periodically visit participating schools and carry out classes in an indigenous language (Martínez, 2014). Said program represents an important effort in broadening access to indigenous education. Yet, it only exists in certain primary schools, and in some of them, only indigenous students that already speak the language receive its teaching. Ideally, these programs would be present in all of the state's primary schools, whether there is an identified indigenous presence or not (Martínez, 2014).

In the same vein, it is important to propose similar actions in other educational levels, not just primary school. Current policy revolves around offering economic aid in the form of a monthly 1000 Mexican peso stipend to indigenous youth that are enrolled in high school or university (Durin & García-Tello, 2011). The importance of this aid is not overlooked, but it is also necessary to intervene with initiatives that visibilize, value and take into account the cultural diversity that exists in Mexican classrooms. This considering that economic marginalization only represents one of the structural causes of inequality that indigenous populations confront (Ruiz, 2015).

In that sense, one of the conflicts indigenous youth face is related to discrimination, exclusion, and other forms of belittlement in academic and urban spaces. This has its roots in stereotypes first developed during Colonial Mexico. Moreno (2010) pinpoints this via a hermeneutic and hemerographic analysis that identifies the prejudices associated with indigenous individuals in the AMM. In their investigation, Moreno (2010) found that indigenous people are stereotyped as being inferior, dangerous, ill-intended or in need of aid. In summary, the perception of the indigenous population is negative and dismisses their capacity and agency.

Another conflict is the result of the educational gap present in indigenous youth. National indicators created by the Instituto Nacional de la Evaluación de la Educación (National Institute for the Evaluation do Education, INEE by its Spanish acronym) indicate that 38.1% of individuals that speak an indigenous language present an educational lag of 18.6% when compared to the other sectors of the population (INEE, 2017). This is also reflected in illiteracy rates and academic grades, as well as in access to quality didactic and infrastructure resources that contribute not only education permanence, but also to the acquisition of necessary skills and knowledge to continue educational trajectories.

Some of the implemented policies have tried to make up for these social inequalities and disadvantages indigenous youth face by broadening the educational offering higher education and offering more preparatory courses for certain careers and subjects (Buendía, 2021). Nonetheless, said actions have not had the expected results. These policies have focused on increasing student enrollment while ignoring the different challenges and difficulties indigenous students face during their university careers. Addressing these factors is critical towards ensuring student success and graduation (Diez & Mateos, 2013).

This is not to invalidate the importance and impact of compensatory policies, for these address real situations and needs. Rather, given the complexity and multidimensional nature of the issue, bridging the educational inequalities indigenous youth face, and helping them consolidate their educational trajectories, requires holistic approaches that also address other roots of the issue (Ruiz, 2015). An example of a more holistic approach was the Programa de Apoyo a Estudiantes Indígenas en Instituciones de Educación Superior (Support for Indigenous Students at Higher Education Institutions, PAEIIES, by its Spanish acronym), which ran from 2001 to 2009 and was funded by the Ford Foundation. The program had 16 participating institutions located across 14 states in Mexico (Velasco, 2012).

In contrast to other initiatives, PAEIIES did not grant financial resources. The program's central strategy was to create centers of academic support staffed with personnel to assist indigenous students during their studies in each participating institution (Gómez, 2010; Velasco, 2012). This assistance included help with administrative procedures within the university, guidance for accessing government issued scholarships or from other institutions, academic support, and personal and emotional counselling. Although the implementation of these centers was carried out differently within each participating institution, each location reported positive results (Gómez, 2010; Velasco, 2012).

In regards to Nuevo Leon, there are currently no government-lead policies such as the PAEIIES program. Additionally, one of the challenges of creating relevant policies is the lack of data about student body composition in different high schools and universities within the state (Olvera et al., 2011). Data provided by the INEE (2017) indicates that in 2015, close to 37% of indigenous youth between 20 and 24 years old had completed high school. Yet, it is unknown whether this percentage enrolled in university. If that is the case, it would mean there are almost 20 thousand indigenous youths currently enrolled in higher education in Nuevo León. The lack of certainty in the above information highlights the need to obtain more robust quantitative and qualitative data about indigenous students in different educational levels within the state, especially those enrolled in high school and university.

3.   Theoretical conceptual framework

A risk factor is defined as any situation that can negatively affect one or more aspects of an individual's life (Ríos, 2013). Risk factors can play out differently for each individual, depending on the individual's access to the necessary resources to confront them. Just as well, there are risk factors that are intergenerational, meaning, they are passed down from one generation to another as a result of social positioning (Filgueira & Fuentes, 1998).

Risk factors related to higher education bring together the inequalities and disadvantages accumulated via class and generation (Filgueira & Fuentes, 1998), and in the case of indigenous youth, those related to ethnicity. These threaten their ability to pursue education, especially higher education. To understand and identify the risk factors implicated in the creation and desertion of educational pathways, we used the habitus theory of Bourdieu (2007). This theory posits that individuals have a combination of features, attitudes and abilities learned via their interactions with others throughout their lifetimes. As a result of these learning processes, individuals perceive the world, and behave in a conditioned way before different situations. In other words, they form the habitus which influences, but does not determine, how they act (Bourdieu, 2007).

The habitus, according to Martínez (2017), is the "combination of principles, or schematics of forms of thinking, acting and feeling produced by the position occupied in a social structure, while also producing socially structured practices" (p.6). The habitus of individuals manifests in the different social camps where they develop.

A social camp is determined by the relationship and interactions between diverse agents that cooperate or clash amongst themselves to obtain a symbolic capital (Bourdieu, 2007). In the case of this study, the social camp is the university, and the symbolic capital to be obtained is a university degree. With the concept of habitus, Bourdieu establishes that the structure that conforms a social camp does not wholly determine the individuals that act within it. Individuals have certain capacity to modify their habitus and therefore change the structures that surround them (Bourdieu, 2000). Individuals might have a habitus that seems paralyzed, but, in reality, can be mobilized towards the social structures and social camps that surround them. Thus, they are capable of strategizing and taking action to obtain objectives that they consider important, or towards obtaining a symbolic capital.

For that to happen, it is necessary that individuals possess certain capitals, in addition to the knowledge that allows them to utilize their available capitals in the most efficient manner and even convert them into new types of capitals towards their goals (Bourdieu, 2007). It is in this process that an individual's agency is revealed. Both the volume and structure of capitals influence the position an individual has within a social camp (Bourdieu, 2000). There are three types of capital: social, economic, and cultural. Economic capital refers to monetary resources at someone's disposal, both in terms of access, as well as the liberty to use them. Economic capital can be passed onto future generations (Bourdieu, 1988). Meanwhile, social capital refers to the benefits a person can obtain from the relationships and support structures that they establish with others (Bourdieu, 1988).

Putnam (2000) makes a distinction between bonding and bridging social capital. The former refers to an individual's relationships with others that form part of their same community, and therefore have similar access to resources. Meanwhile, bridging social capital refers to relationships with people beyond an individual's community, meaning, they have less in common with an individual, but possess different and necessary resources that might be unavailable in bonding social capital (Putnam, 2000).

Cultural capital can be identified in any of the following three states: Objectified, embodied, and institutionalized (Bourdieu, 1988). Objectified cultural capital can be any type of "cultural good, paintings, books, dictionaries, instruments, machines," (Bourdieu, 1987, p. 15). It is obtained via economic capital or can be inherited. Institutionalized cultural capital is "a very particular form of objectified capital. It can be exemplified with an educational degree, it confers cultural capital… and to its recipient a conventional, constant value that is legally recognized" (Bourdieu, 1987, p. 16).

Finally, embodied cultural capital is all of the lessons that are acquired throughout a person's life, mainly, through formal education and via different formative activities, but also in non-formal spaces. In addition to economic capital, it requires the individual to invest time and effort for its acquisition (Bourdieu, 1987).

Bourdieu does not provide a definition for emotional capital. Yet, the concept is described by Pava (2013), who, in accordance with the theory of habitus, points out that emotional capital comprises the emotions derived from lived-experience and how these affect individuals and predispose them to confront future situations. This capital gives people the faculty to identify, express and use their emotions towards the process of thought, motivation and decision making (Pava, 2013).

Magna (2016) compliments this perspective by pointing out that emotional capital implies that individuals are capable of regulating and controlling their emotions. Therefore, they can adapt themselves to difficulties or changes. Said abilities position individuals towards mobilizing other capitals, making decisions, and taking actions towards modifying their surrounding social structures. Therefore, an individual's agency is promoted.

Emotional capital is considered an embodied capital, for it is not tangible. Additionally, in contrast to economic capital or objectified cultural capital, emotional capital cannot be inherited (Pava, 2013), and must be built by each generation.

The conceptual elements of the theory of habitus allow us to approach the situation of indigenous students in Nuevo León's universities, taking into consideration the social structures and capitals that influence their educational trajectories. Via this theory, we are able to identify what risk factors played a role in the abandonment of studies, and which were absent from cases where the students successfully completed their degree. By comparing these trajectories, it is possible to create a comprehensive understanding of the issue at hand and fit it into our current theories and knowledge.

4.   Methodology

The general objective of this investigation was to identify the risk factors involved in the consolidation and abandonment of the university-level educational trajectories of indigenous youth in Nuevo León. To this end, we designed a qualitative and interpretive research design with the aim of extensively exploring the issue. We chose to rely on the biographical method, for, it was necessary to reconstruct situations and experiences that have had an influence in education trajectory throughout an individual's lifetime.

The biographical method allows us to explore different happenings and place special emphasis on situations or key time-periods of investigation (Mallimaci & Giménez, 2006). Additionally, we are able to capture the perception individuals have regarding their experiences, as well as incorporate the socio-temporal context into our analysis (Sautu, 1999).

In order to compliment the biographical method, we utilized theoretical-methodological elements drawn from the life course perspective. This perspective aims to analyze and understand the relationship between social context and personal-level changes (Blanco, 2011; Hutchinson, 2011), taking into consideration the history and motivations that influence how individuals make decisions (Martínez, 2014).

From this perspective we take the concepts of trajectory, transition and turning point. Trajectory refers to situations and experiences that a person lives in the different environments in which they develop, including the familiar, educational, and working environments. Transition is defined as any significant change that demarks the end or beginning of a stage, for example, migration, marriage, or the enrollment in an educational program (Blanco, 2011; Elder, 1994; Hutchison, 2011). Transitions may imply a change in an individual's role or social status, or in how they are perceived, and the expectations associated with their behavior. This leads to behavioral and cognitive modifications as individuals assume new roles and functions. Therefore, transitions also imply changes in the trajectories of individuals (Elder, 1994).

Finally, a turning point refers to any change that causes significant modifications in an individual's life trajectory (Blanco, 2011; Hutchison, 2011; Martínez, 2014; Roberti, 2012). Through these concepts, the life course perspective aims to understand the changes individuals undergo during their lifetimes. Additionally, this perspective emphasizes the importance of incorporating into analysis: a) the sociocultural context in which an individual develops, b) the positive and negative influence of others in an individual's life, and c) the actions and choices each individual realizes to modify their trajectories (Blanco & Pacheco, 2003; Elder, 1994).

In conjunction, the biographical method and the life course perspective allow us to approximate the experiences of indigenous youth, focusing our attention on the different trajectories, transitions and turning points that represent risk factors for their university-level educational trajectories.

As an information-gathering technique we used the in-depth interview. This technique allows us to understand the opinion and perspective of individuals in respect to the situations they confronted (Robles, 2011; Taylor & Bogdan, 1994). Through this, we sought to understand the diverse trajectories, transitions and turning points that influenced, either directly or indirectly, the educational trajectories of our study's participants.

Due to the amplitude of information which we sought to collect with the in-depth interview, it was necessary to carry out, on average, three sessions of approximately one hour each. This in order to not exhaust the interviewees, as well as respect their schedules. Although, as Robles (2011) suggests, sessions took place once a week to avoid losing the narrative flux of the interview.

In regard to the profiles of the participants, our selection criteria were the following: that they auto-described themselves as members of an indigenous group within Mexico, regardless of whether they spoke the group's language, and that they had migrated to Nuevo Leon, or were children of migrants. We looked for indigenous young adults that, in addition to the above criteria, had abandoned their studies, were currently studying, or had graduated from university. Additionally, we included individuals from both public and private universities.

In order to find participants, we used snowball sampling, in which we contacted different institutions that worked with indigenous young adults in the AMM. From there, we identified key members, from whom we obtained the contacts of other possible participants (Bernard, 2006). The information collection process occurred during the months of May 2020 to February 2021.

The number of participants was determined with the criterion of theoretical saturation. This way the process of recollection was finalized when newly obtained information no longer generated new categories of analysis (Blasco & Otero, 2008; Hernández, 2010; Quecedo & Castaño, 2002; Quintana, 2006). In total, 10 indigenous young adults participated. This group was composed of individuals from 18 to 31 years of age, including seven women and three men. Of this group, three were currently studying, four had graduated, and three had abandoned their studies. The breakdown of the study group is detailed in Table 1.1, along with their defining characteristics.

Table 1.1 Participant characteristics

Code	Sex	Age	Ethnicity*	Time in the city	Status of educational trajectory	Career
E1	Female	21	Bats´i k'op (Tsotsil)	5 years	Active	Industrial Engineering Private University
E2	Female	29	Náhuatl	10 years	Completed	Nursing Private University
E3	Female	22	Hña hñu (Otomí)	12 years	Completed	Law Public University
E4	Male	18	Náhuatl	2 years	Abandoned	Architecture Private University
E5	Male	28	Hña hñu (Otomí)	22 years	Completed	Education Public University
E6	Female	21	Rarámuri (Tarahumara)	4 years	Active	Social work Public University
E7	Female	22	Wixárika (Huichol)	4 years	Active	Civil Engineering Public University
E8	Female	23	J ñatio (Mazahua)	18 years	Completed	Law Public University
E9	Male	19	Hña hñu (Otomí)	15 years	Abandoned	Systems Engineering Public University
E10	Female	31	Náhuatl	13 years	Abandoned	Business Administration Private University

Source: Data in table gathered from interviews

*We use each ethnic group's auto-denomination. Nonetheless, in parenthesis we also specify the name this ethnic group is known by in Spanish.

For the information analysis, we used the grounded theory as our technique. One of the characteristics of this theory is the simultaneous nature of data collection and analysis. This aims to make constant comparisons between data to analyze similarities, differences and relationships that can be found in the information provided (Bonilla-García & López-Suárez, 2016).

The grounded theory follows three steps in order to organize and standardize data: open, axial and selective coding. Open coding refers to assigning codes to the interview data, these are then grouped into categories and subcategories in line with the thematic and conceptual relationships identified between them (Strauss & Corbin, 2002). Afterwards, relationships are established between different categories and subcategories (axial coding) to finally compare the found relationships within the theoretical framework (selective coding) and generate theoretical conclusions that answer the questions (Strauss & Corbin, 2002). All information processing was done with the Atlas.Ti v.8 program.

5. Results

This investigation's results allow us to determine the risk factors present in the experiences of indigenous students, as well as identify the structural characteristics and accumulated inequalities that played a role in the abandonment of their studies. Below, we present each risk factor.

Economic capital

Economic capital refers to the quantity of monetary resources and goods an individual, or their family, has access to, as well as the freedom to spend or invest it in what they consider important (Bourdieu, 1988). In the case of our study participants, the volume of available capital fluctuates between scarce and limited. By scarce, we refer to the fact that on more than one occasion, the individual's family had difficulty covering a basic need, mostly food. Meanwhile, limited is understood as situations in which basic needs were covered, but there lacked sufficient funds for school-related spending.

We found that, during the greater lifespan of individuals in our study, their access to economic capital was limited, and during some time periods it became scarce, especially during their childhoods and adolescence. This situation meant that families were unable to make any school-related expenses. This economic situation was mostly due to the parents' profession, given that, in most cases, individual's parents held jobs of low remuneration in the service sector as informal sellers and agricultural fieldworkers.

The lack of economic capital meant our participating individuals had to begin working at young ages in order to contribute to their family's income. They were mainly employed as informal sellers alongside members of their family or as assistants in businesses. This situation meant they dedicated less time to their studies, which impacted their academic success.

Well yes, I began to work since secondary school with my parents. My parents' job was not stable, so there were periods of time with more work than others. So, there were times when I had exams the day after having to go to work, or two days after a very exhausting work-day. So, I always blamed that, like -for this reason I got a 6, or for this reason I didn't do the homework- and I mean because of my parents' job (E8, personal communication, October 22, 2020).

Those that were not employed at a young age had to stay at home taking care of their younger siblings, which is why they were also unable to fully dedicate themselves to their schoolwork. A significant turning point that impacted the volume economic capital available was the death of a father, which occurred in five cases. This meant less family income, which resulted in the students either taking on more employment or starting work for the first time in order to cover home as well as school expenses. In our studied cases this occurred between the last years of secondary school and the beginning of high school. Limited economic capital impeded students from accessing certain types of cultural capital, especially those related with the acquiring of necessary materials to complete schoolwork or to attend extra courses to complement their learning. This matter is further explored in the next section.

In all of our study cases, the lack of economic capital presented a risk to the continuation of studies, especially during their pre-University education. The lack of this capital also hindered their enrollment and permanence at university, given that it not only implied a significant investment to cover school quotas, but also involved covering costs at the migratory destination, in this case in the AMM.

In some cases, this meant individuals delayed enrolling in university by one or two years in order to save up money. Or, that they combine studying with employment in order to cover costs, complicating their ability to carry out academic tasks. In addition, individuals that abandoned their studies cite the lack of money as one of their main reasons for leaving school.

Cultural capital

For our study participants, access to cultural capital also falls into scarce and limited. Limited cultural capital implies difficulty and on occasions impossibility, in accessing educational material, extracurricular activities that are formative towards developing skills and institutions with adequate educational levels. Meanwhile, scarce refers to situations in which the access to cultural capital is not enough for a student to acquire the necessary skills during each stage of their education. Participating individuals went through their primary and secondary education with scarce cultural capital in all three of its forms (embodied, objectified, and institutionalized). During these stages of their education, they lacked access to material such as books, encyclopedias, and computers, which would have allowed them to expand on their classroom learning. On the other hand, while they might have had access to cultural and sporting activities, they lacked access to activities that would have complimented their learning, for example, going to the theatre, museums, or libraries.

In this regard, research realized by Hernández (2013) documents the impact that the schooling conditions within indigenous communities have in educational formation. The lack of teachers that speak the community's language, as well as the lack of didactic resources and adequate infrastructure, at both primary and secondary education, were identified as being particularly impactful. Such situations complicated educational trajectories, especially that of university education.

Starting in high school, the main difficulties were related to the lack of technological ability, given that, before high school, students had not utilized a computer or the internet. Additionally, during high school, they did not have access to their own computers and had to complete their schoolwork in cyber cafes, which also implied an economic investment.

Although they received computer classes during this stage in their education, these were not enough to acquire the technological knowledge necessary that would allow them to realize the required tasks. Studies with indigenous youth by Bustillos et al. (2018) and López et al. (2015) evidence the gap in digital skills in this population group. The limited physical access to computers and the internet hindered the use and appropriation of technology. Therefore, not only was there a lack of objectified cultural capital (computers) but also a lack of embodied cultural capital (digital skills).

Once enrolled in university, the lack of digital skills was more evident, given that the schoolwork assigned required the use of computer software and the internet. During the first months of university, the lack of embodied cultural capital meant a greater time investment in completing schoolwork, or that academic performance was not adequate, which converted the situation into a risk factor.

I mean, for me starting to use the computer was a huge challenge, because well, you don't have a choice, where else can you get information from without it? And I always tried to use good sources, so imagine, I would take a very long time and I barely knew how to use it, so that was also a big challenge for me (E2, personal communication, July 30th, 2020).

On the other hand, most participants pointed out that they felt they began university with a lesser educational level than their peers who had completed their schooling in the city. They identified this situation by the kind of language utilized by their peers, or rather, how they would express themselves.

Well during the first days I barely talked, I was embarrassed to comment because, for example, I would see my peers that well… I felt that they knew much more than I did and that I was missing something, I mean, in the way they expressed themselves, how they talked and at times I could not understand everything… for example, if they were explaining something, some concept, sometimes I did not understand (E7, personal communication, September 24, 2020).

It is important to point out that the perception about the lack of knowledge can be attributed to the fact that there effectively exists a learning gap between urban and rural populations. Actually, the four individuals who migrated during their early ages do not express experiencing the same learning gap. Nonetheless, we must avoid supposing, or confusing, the learning gap and its consequences during university, with the belittlement of traditional knowledge related to culture and life in rural communities. Additionally, we find that the feeling of a learning gap was most expressed by students who, before migrating, communicated primarily in their maternal language. They did learn Spanish during their childhood, but during the first months in the city they experienced new levels of complexity while expressing themselves and understanding new concepts in that language.

Bridging and bonding social capital

Social capital is composed of the networks and relationships that are established with others and from which determined benefits can be obtained. It can be bonding or bridging, depending on the make-up of the web of relationships, and therefore, the resources received vary in function to each kind of capital (Putnam, 2000). The bonding social capital of the students fluctuated between limited and scarce during their pre-University years. In some cases, support from family members (mothers, sisters) and friends was identified. Meanwhile, in others, fathers refused to support the continuation of studies. Such situations contributed to the lack of economic and cultural capital, as well as the reduction of emotional capital.

And they told me -no, why should we give you studies if you won't study- and well pretty much within my own family many pretty much doubted that I would become something and well that also affects you (E5, September 27, 2020).

In line with this is the work of Byun et al. (2012) and Dufur et al. (2013), which explores the importance of family in educational formation. They find that parental support is crucial to increasing student confidence and motivation, which is then reflected in academic performance and later enrollment in university.

In that sense, Suárez & Vásquez (2021) identify that the extended family presents a strong source of social capital, both in how they were a part of the migratory networks of the students and provide them with a place to live and financial support, as well as how they help them adapt to their new surroundings. Therefore, a lack of this kind of capital became a risk factor that threatened enrollment, permanence, and graduation from university. Additionally, a lack of bridging social capital was identified in individuals that abandoned their studies which made it impossible to access other, tangible resources that would have helped them confront the challenges and threats created by the lack of other capitals, and therefore pushed them to abandon their studies.

And then I had a lot of time alone, so I did need the support of my parents or friends in order to be able to grow as a person, right? So, I think that was also something that complicated my continuing to study… not having anyone, not even support from family, or friends, and like that… I think I did lack that, getting to know people or having friends (E10, personal communication, February 02, 2021).

In contrast to individuals who had to abandon their studies, those that graduated or continue to study were able to expand their bridging social capital and were therefore able to build support networks with people around them (teachers, peers, employers) or institutions, through which they received economic and emotional support. In other words, individuals used said capital to obtain other kinds of resources.

I already sort of made friends, so before all of the pandemic, well what we did is that we got together with my classmates, and we did study groups to explain ourselves things and do the homework together and support each other and like that. And if someone didn't understand something well someone else helps them and like that between each other, between all of us we help each other (E7, personal communication, September 24, 2020).

The above constitutes a conversion of capitals, strategy in which a certain volume of capital is invested in actions in order to obtain other kinds of benefits. In said example, it is evident that via social capital (classmates), embodied cultural capital was obtained (knowledge for completing schoolwork and exams), as well as scholarships that contributed to covering costs and increasing economic and cultural capital. Nonetheless, individuals that abandoned university did not count with bridging social capital to convert and obtain new benefits. Therefore, in such cases, the scarcity of both types of social capital accumulated and led to a situation that intensified the threats to their university careers, as it hindered their access to the necessary resources to confront risks and was a decisive factor in them abandoning their studies.

Emotional capital

Self-acknowledgement and inner speech are considered part of emotional capital. Inner speech refers to the instructions, reinforcements, and words that an individual says to themselves during different moments or situations during their lifetimes (Sánchez et al., 2016). For example, before an exam, a job interview, or another moment of tension and challenge. Depending on the type of inner speech, the motivation and self-confidence one has in their abilities can increase or decrease. This is then reflected in performance. In its own regard, self-acknowledgement refers to the characteristics that each person is able to recognize within themselves, both positive and negative (Giménez, 2007).

Although we do not delve deep into the process of building self-acknowledgement, given that that implies having a different research goal, it is important to understand its interactions with inner speech and its influence on emotional capital. This also affects thought processes, motivation, and how an individual makes decisions, particularly those related to their university trajectory. This makes it a risk factor.

A constructive emotional capital facilitates, via self-acknowledgement, that an individual identifies positive characteristics within themselves, and that their inner speech mobilizes them towards making decisions that benefit their success. Nonetheless, when this type of capital is scarce, self-acknowledgement is principally conformed by negative characteristics and an inner speech that hinder the planning and making of decisions, which, in conjunction, diminishes self-confidence.

A lack of emotional capital was identified in participating individuals who frequently experienced family violence, alcoholic tendencies in their fathers, and misogynistic practices. Said experiences affected their self-acknowledgement, causing them to view themselves as having less capacity for academic activities and affecting their academic performance.

We are not loved there [in the community] because we are women and well the men… the difference with them I think is that they have more strength, maybe it's that, but well, we do work in the fields, we help equally. But well, I do remember that my father would say "women aren't good for anything" and that, I don't know, it always made me sad to hear him say that and well it did affect me a lot because I also thought: well, yes, it is true, we aren't good for anything (E1, personal communication, May 29, 2020).

To the above situation, it is added that in many instances, individuals were victims of bullying for their ethnicity, especially those that attended primary and secondary school in the city. Individuals systematically described that they received verbal and physical abuse for their way of speaking and dressing. The response to these situations was varied. While some individuals opted to defend themselves and even responded aggressively, others preferred to distance themselves or not do anything. In whichever case, bullying minimized their emotional capital, affecting their academic performance and resulting in the abandonment of school activities. In some cases, students refused to attend classes. Ayala-Carrillo (2015) and García & Asencio (2015) point out that, in addition to these consequences, those that were victims of bullying experienced difficulty focusing and alterations to their sleep patterns.

Situations of bullying did not present themselves in high school. Nonetheless, at university, individuals described excluding and infantilizing practices that also had a misogynistic edge. Individuals pointed out that on various occasions their non-indigenous peers excluded them from schoolwork teams and recreational activities. They also experienced disrespectful comments about their way of speaking and dressing.

These types of practices were also carried out by faculty who, through infantilizing comments, perpetuated stereotypes associated with indigenous populations, particularly those related to their supposed lack of intellectual capacity or misogynistic comments that alluded to the fact that certain careers were not appropriate for women.

In that regard, Rojas-Cortés & González-Apodaca (2016) emphasize that one of the challenges for indigenous students at universities has to do with the interactions of different people involved in the educational space, not only between students, but also teaching and administrative staff. The creation of policies that seek to regulate these interactions must have as a goal putting an end to the perpetuation of practices of violence and inequality towards the indigenous population (Rojas-Cortés & González-Apodaca, 2016).

The consequences of not intervening in order to eradicate these practices in university spaces represent factors of risk that minimize emotional capital. This has varied consequences in the academic sphere, for example, some individuals opted for changing their professional career and recognized that their academic performance was affected.

The decision to switch careers did affect me and my reaction was also to exclude me, even during the first semester I did not go to classes, it was like -I don't want to go, I don't want to go in-. I only left the house because my family knew I had to go to university and if I didn't, they were going to ask me why I was not going therefore I would leave home and I would go to the park or whatever place that was not school. I took that attitude, that was my reaction, the first semester I failed five of the seven courses I took (E6, personal communication, October 10, 2020).

Also, when I just enrolled, the part of presenting in front of everyone was very hard for me because I remember I could not do it, I would become paralyzed, I felt that everyone looked at me and that they were going to laugh at me (E3, personal communication, August 02, 2020).

In accordance with these findings, it has been documented that the motivation of indigenous students, as well as their ability to organize themselves and realize academic tasks, diminishes before situations of harassment and violent practices that target their ethnicity (Hernández et al., 2007). In this sense, Velasco (2012) points out that the emotional consequences of bullying experienced at different stages, occasions "blocks and emotional isolations that can demerit their capacity of adapting and their academic performance" (p 67). In their investigation of indigenous youth from Chapingo, Chávez (2008), found that the permanence and completion of university is related to personal matters, just as much as academic ones. Personal matters influence academic performance, and therefore, it is critical to take actions that not only level the academic field for indigenous students, but that also intervene in emotional and personal aspects.

In the present case, we find that scarce emotional capital derived from different situations of harassment and lived violence represents a risk factor towards the consolidation of academic trajectories. The lack of emotional capital diminishes academic motivation and influences the making of decisions before adversity, as well as the strategies an individual undertakes to confront said adversity. This results in less positive self-acknowledgement and inner speech, which diminishes self-confidence in academic capacity.

Educational trajectories at university: abandoned, active and completed

In contrast to other studies that focus on understanding the social origin and structure of capitals, particularly that of economic and cultural capitals, as factors that influence in educational trajectories of indigenous youth, our work also focuses on identifying the risk factors present in the case of abandonment of studies, and the risk factors that are absent in cases where individuals are currently studying or have graduated. We argue that the lack of certain risk factors is what facilitated student permanence and completion of a professional career.

Additionally, we sought to identify and understand the accumulated inequalities throughout a person's lifetime, in other words, the risk factors that threatened the formation and continuation of education, and that were present since childhood. Based on the former, it was possible to build a deep and holistic understanding of the consolidation of educational pathways, as well as of the risk factors present in the abandonment of studies, and those absent in successful or active cases.

During the childhood and adolescence of the participating individuals, the volume of the four forms of capital fluctuated between scarce and limited. Equally, the characteristics of the family trajectory and social context of the AMM represented risk factors that hindered the completion of each educational stage and their plans to enroll in university. This caused a persistent inequality that hindered their ability to expand the capitals they lacked. In other words, the agency of individuals was conditioned by determined social structures and volume of capitals, limiting the actions they could take towards a desired symbolic capital (university degree).

When analyzing and comparing educational pathways and life-experiences of the study subjects that abandoned their studies, versus those that finished them or are currently continuing them, we found that in the three cases, there existed risk factors and difficulties associated with emotional, cultural, and economic capital. In other words, their pre-university educational trajectories were similar in terms of the volume and structure of those three capitals. The main identified difference between the three outcomes lay in the volume of social capital. Individuals who abandoned their studies lacked social capital, specifically, bridging social capital.

In contrast are the individuals that were able to complete their studies. These individuals had the opportunity to know and establish support networks with governmental institutions and civil associations that granted them scholarships to cover living costs, educational costs, or personal investments. With these they were able to navigate the threats that arose from their lack of other capitals. Similar factors were pointed out by participating individuals that are currently studying. These students have received support from different people in the city (teachers, employers), and in some cases government institutions. Individuals who abandoned their studies did not have access to this kind of capital and the opportunities and benefits it brings. This complicated their educational trajectories at university and was an obstacle to their permanence at school.

Via testimonies, we also find that the access, permanence, and graduation from university has required participating individuals to make many sacrifices. From leaving home and migrating to a different cultural context, to combining work and study and therefore lack enough time for rest and recreation. Nonetheless, all of them point out that enrolling at university was a turning point in their lives, and that, without a doubt, they would opt for the same decision. This includes individuals that abandoned their studies. For participants, the university space becomes a social camp in which they struggle for a determined symbolic capital: a university degree. The individuals who graduated refer to the benefits derived from finishing their professional studies, and how these influence in the positive recognition from their families, friends and community members, social circles where they are seen as having higher social status due to their degrees.

Additionally, at least in the case of those who were interviewed, a degree has meant having a better paid job over their peers who did not study. In this regard, it is important to clarify that, of the participants who graduated, three are working at institutions that work for indigenous populations. It is also important to note that they began to work at these institutions before graduation, as part of internships and their social service. We point this out in order to avoid making conclusions based on the situations of these individuals, knowing that in the national context, work for indigenous individuals with professional degrees continues to be scarce (Sordo, 2020).

On the other hand, the importance of university level studies was also identified in the experiences of individuals who deserted their studies. These individuals reiteratively pointed out the collateral benefits of university, even when they had to abandon their studies. Enrolling at university allowed them to have a different perspective about their future and what they wish to accomplish. Through the interactions with others and the access to formative activities the institutions offer, it was possible for them to expand their goals and objectives, both personally and professionally. Therefore, their intention is to retake their studies and graduate whenever personally possible.

6.　　Conclusions

Our findings allow us to conclude that many risk factors are present in the formation and consolidation of educational trajectories for indigenous young adults in Nuevo León, and that these accumulate throughout their lifetimes. These findings about the importance of economic and cultural capital in education trajectories coincide with studies done at intercultural universities. We also identify the relevance of other factors in the conformation of educational trajectories, which allows us to broaden our understanding on the topic, specifically about the processes at conventional universities.

We conclude that the risk factors present during early educational stages of indigenous young adults are related to the structure and volume of capitals, which creates an obstacle to the continuity of their educational trajectories. The threats are associated with a scarce or limited volume of economic, cultural, and emotional capital. Nonetheless, we also conclude that the lack of social capital is the fundamental risk factor that threatens educational continuity. This given that indigenous young adults that do have social capital receive tangible and intangible benefits from it that help them confront educational risk factors caused by the lack of other capitals.

In other words, individuals who graduated or currently continue studying during the time of the interview were able to overcome economic obstacles and the lack of cultural and emotional capital via the use of bridging social capital. Through bridging social capital, they found scholarships for their living and education costs, as well as flexible work hours that alleviated economic pressure. Nonetheless, in the educational trajectories of those who abandoned their studies, this type of capital was not present.

In addition, it is critical to point out that the educational trajectories of indigenous youth present greater risk factors than their non-indigenous peers. Non-indigenous students might come from similar social backgrounds, but they do not have to deal with stereotypes and violence due to their ethnicity. In other words, indigenous students have even more complicated educational trajectories at university than their peers because they must confront the accumulated disadvantages created by the intersection of class, ethnicity, and in some cases, gender.

In regards to the above, it is essential to emphasize that indigenous youth have been successful in mobilizing their agency in order to enroll at university, this including individuals who had to abandon their studies, demonstrating that they are not passive, nor incapable of taking action. Nonetheless, by identifying the incidence of the lack of capitals in educational continuity, we argue that the efforts realized by indigenous students, as well as their agency, must be complimented by integral policies that aim to transform structures and reduce not only economic and cultural risk factors, but also those associated with emotional capital and the lack of support networks, or social capital.

Additionally, it is crucial that these politics be implemented in different educational stages. This given that risk factors begin to accumulate since childhood, and they exacerbate during educational formation. Particularly, we emphasize the importance of implementing programs of enrollment and retention during the transition to higher education, and in the first semester at university.

The transition from high school to university is a crucial moment, given that it is during this process when complicated contrasts are experienced. This not only involves adapting to a new educational system that demands higher levels of knowledge and differences in administrative processes, but also, in the case of those who have migrated, it implies a process of adapting to a new city, with all the complications that involves.

In the same vein, during the first semester of university, it is crucial for indigenous students to access tools to help them adapt themselves to their new environment, lest they become overwhelmed by its changes, new demands, and lack of resources, endangering their permanence. Because of this, it is fundamental to intervene with pertinent programs both during the transition from high school to university, as well as during the first semester of university.

The presented conclusions represent a recommendation for universities, government, and non-governmental institutions to generate programs destined towards indigenous students, or, at least, to innovate and better the existing ones. Additionally, it is important to emphasize that the challenges and problems indigenous students face change in function to historic happenings, which is why this matter requires a constant and evolving investigation.

Meanwhile, it is essential to broaden research in other universities with conventional pedagogical models, and in other states of the republic with the finality of comparing our found results. Additionally, it is timely to identify if all of the universities count with programs of pre-enrollment for new students, or if high schools have transition programs towards higher education, as well as revise their curriculums in light of the presented conclusions and incorporate themes and actions that strengthen monetary support (economic capital), academic (cultural capital), and personal (emotional and social capital) and corroborate their incidence at university.

Finally, it is fundamental to deepen research about social and emotional capital's role in indigenous young adults and their educational trajectories. As it is evidenced, these are crucial elements in their educational journeys, but probably also in other aspects of their lives.

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Chapter 2 The use of alternative media as means of social insertion to generate corporate social responsibility *Ambient Media* and *Marketing de Guerrilla*

Capítulo 2 El uso de medios alternativos como medios de inserción social para generar responsabilidad social corporative *Ambient Media* y *Marketing de Guerrilla*

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Abstract

Social responsibility has been a term that day by day is taking more seriously at the moment of how and what to do of actions as individuals or members of a social group. Taking companies to the design and implementation of actions with commitment inside and outside, for the contribution in favor of society. This article proposes the use of alternative means of communication to generate actions of social responsibility, where their high degree of creative impact generate a change of attitude and motivation in the participants, leading them to a participatory autonomy. Allowing organizations new forms of interactivity with their audiences. So, this article presents two examples where from the use of ambient media strategies and guerrilla marketing, social insertion is achieved in a natural way in social responsibility issues, sensitizing participants with alternative practices. These types of strategies are new ways to interact and transmit messages to audiences in a natural way

Social responsibility, Social insertion, Alternative media, Ambient media, Guerrilla advertising

Resumen

La responsabilidad social ha sido un término que día a día va tomando más seriedad al momento del cómo y el qué hacer de las acciones como individuos o miembros de un grupo social. Llevando a las empresas al diseño e implementación de acciones con compromiso dentro y fuera, para la contribución a favor de la sociedad. En este artículo se propone el uso de medios alternativos de comunicación para generar acciones de responsabilidad social, en donde por su alto grado de impacto creativo generan un cambio de actitud y motivación en los participantes, llevándolos a una autonomía participativa. Permitiéndoles a las organizaciones nuevas formas de interactividad con sus públicos. Por lo que en este artículo se presentan dos ejemplos en donde a partir del uso de las estrategias del *ambient media* y del *marketing de guerrilla,* se logra la inserción social de manera natural en temas de responsabilidad social, sensibilizando a los participantes con prácticas alternativas. Este tipo de estrategias son nuevas formas de interactuar y transmitir mensajes a los públicos de forma natural.

Responsabilidad social, Inserción social, Medios alternativos, *Ambient media*, Publicidad de guerrilla

1. Introduction

Society today and throughout its history has been highly affected by multinational companies, through their products and services. In the same way, social groups have caused different problems in the environment, promoting high levels of poverty, inequality, and even pollution. However, there are different proposals to improve the quality of life of these groups, promoting a sustainable development that has not borne fruit in its entirety. Therefore, the objective of this article is focused on proposing an alternative which consists in the use of innovative supports as means of the message for the social insertion of the companies to generate social responsibility.

The methodology used is descriptive, which consisted of exploring some concepts of responsibility and social insertion, and two alternative media as strategies for generating social responsibility experiences are also presented. In this project, new alternatives of socially responsible companies will be known, where their main objective is not only focused on economic gains but also on improving the quality of life. "It is necessary to create economic value that generates social benefits beyond the natural ones of the company" (Diaz, 2015, p.210).

2. Description of the topic

Corporate Social Responsibility

The term social responsibility has evolved over time within organizations. According to Friedman (1970), social responsibility refers to the interest of businesses to increase their profits; a concept that arose in a period in which important changes were experienced within the social sphere that involved great concerns and consequently had an impact on companies and their management.

The relationship between companies and consumers goes beyond just a union of production and consumption, as it involves not only economic values but also human values, thus defining social responsibility as an ethical concept that involves modifying ideas about human welfare, improving the economic and productive relationship, promoting a better quality of life. It is from this conceptualization that organizations in the 21st century are recognized as organizations that must not only look after their own interests but also the interests of society.

In 2001, the Green Book of the Commission of the European Communities quoted by de Castro (2005) defines social responsibility as: "the voluntary integration, by companies, of social and environmental concerns in their business operations and their relations with their stakeholders" (p.40), which ultimately promotes a voluntary union for the common good, which will also benefit the credibility of the company in the eyes of its stakeholders and will provide excellent business results in the long term. But what are the issues that Corporate Social Responsibility must address? In 2004 Bestratén and Pujol promoted a series of motivations for the generation of actions by companies, which are: 1) concern for the damage caused to the environment, 2) the quality and safety of the services they provide to society, 3) the care of aspects related to their workers; safety, discrimination, remuneration, working hours, training; 4) collaboration with scientific research, 5) collaboration with art and sports projects.

However, we are talking about not only taking into account those areas in which the company will benefit, but also those that will promote an improvement in the state of society, even if their activities are not closely related to the company. Since such problems or failures continue to exist due to a lack of attention from the state, a fact that promotes an insertion of the company into society and vice versa.

Social Insertion

Society is immersed in a series of problems that affect their growth and development in daily life, causing a serious disorientation and little participation with their environment.

When we talk about social insertion, we refer to the capacity of a subject to integrate and develop in life. This process is integrated from the construction of personal, socio-cultural and professional identity, including all aspects of the subject and his environment. This means that insertion requires the integration of the person, his/her surroundings, the community and his/her environment, a process that must be carried out in a bidirectional and complementary manner.

However, in order to understand inclusion, it is necessary to understand that in the first instance there has been an action of exclusion by any group within society, and even by all the groups that make it up, exclusion that causes not only economic problems, but also social, ethnic and cultural problems. Dejour (1998) quoted by García Roca (1999) mentioned that "the suffering endured by the excluded is a misfortune that does not necessarily provoke a political reaction; at most it may arouse compassion, pity, charity, nor does it necessarily call for indignation, anger or collective protest..." (p.48). (p.48). In such a way that exclusion, being so recurrent, "has installed itself in the very heart of society to the point of inverting its inclusive orientation" (Focauld and Piveteau, 1995 cited by Garcia, 1999 p.50).

The social work of the organizations as a major urgency in the face of exclusion is to turn it into an issue of general interest, thus achieving an inclusion of the corporation in society and of society to it. "Recognizing the right of insertion as a social debt, which occupies an intermediate position between the right (it is accessible to all) and the contract (linked to a counterpart through their personal behavior)" (Garcia, 1999, p.55).

It is necessary the participation of companies capable of promoting alternatives and solutions through their image and for the benefit of society "placing social utility at the center of the economic" (Garcia, 1999, p.57) and achieving better living conditions from such integration and promoting exchange and social economy. Joaquín García Roca (1999) proposes the creation of social links through the use of organizations that facilitate the means of insertion, overcoming social isolation and the violence of the excluded.

However, in order to achieve these objectives, it is necessary to use different strategies and, in turn, communication and message dissemination tools to promote participation and social inclusion. An example of this is the use of new alternative means of communication.

3. Development

Alternative Means of Communication

To achieve change and inclusion in the social sphere, corporations have been responsible only for becoming socially responsible companies in the environmental field, however, it has been seen that it is necessary to cover other areas. But to achieve these purposes it is necessary to generate not only messages but an experience of social responsibility that impacts, and consequently generates a change. But how can this be achieved; the evolution and innovation of the media has served to begin this task.

Grazziano quoted by Sager (2011) defined alternative media as those dialogic relations of transmission of images and signs that are inserted in a transforming praxis of the social structure as a whole; being thus indispensable that they are carried out in a horizontal and bidirectional way and consequently participatory. Later Albert (1997) quoted by Fleischman, Ginesta and López (2009) referred to alternative media institutions as agents that.

They do not try to maximize their profits, they do not sell their audience to advertisers to obtain their main source of income (and thus seek a broad, non-elitist audience), they are structured to subvert the hierarchical social relations that define society, and in their structures they are profoundly different from other social institutions, particularly corporations, and as independent of them as can be. (p. 261)

It therefore seeks collaborative relationships and linkages that strengthen the corporation and society with each other.

In 2002 Downing names alternative media as radical media, defining them as those that offer "an alternative vision to hegemonic policies, priorities and perspectives" (p.21) with the objective of going against the guidelines that exclude and/or discriminate against different sectors of society. However, the use of these tools is not limited to meeting exclusively social or non-profit objectives, but also to achieve economic growth and positioning of the brand or company.

Nowadays, when we talk about alternative means of communication, we are referring to an endless number of non-conventional tools that arise from other existing ones, but with a variation or have evolved. Nowadays, there is an endless number of alternatives, some of them are: *ambient marketing*, *viral communication*, *buzz marketing*, *mobile communication*, *advertainmen*t, *engagement marketing*, *advergaming,* street marke*ting,* experiential communication, to mention a few.

Although many of these tools are not yet fully recognized, or there is not a deep knowledge about them, it is necessary to understand their impact and function within the communication field in order to choose the most appropriate, when generating a communication strategy and achieve a correct experience of social responsibility. In this article we will only talk about ambient marketing and guerrilla marketing because these strategies are based on two case studies presented below.

Ambient Media or Ambient Marketing. It is an alternative tool that uses objects of the everyday environment to spread their messages and impact with them from innovation and creativity. In a study conducted in 2006 by Turk, Newton and Ewing on the effects of ambient media, it was shown that this type of tool can affect the behavior of individuals, naming it also as Conscient Ambient or Ambient Social. Barfoot, Burtenshaw and Mahon (2006) define *ambient media* as "a relatively recent phenomenon, so called because it is advertising that is part of the environment in which the target audience finds itself" (p.28). They also add that one of the fundamental elements in such advertising is the so-called surprise factor, an aspect that adds value and makes it remembered.

The resources to which the *ambien*t media resort are of a non-conventional type, such as any object found in the space to convey a message. Barfoot, Burtenshaw and Mahon (2006) mention that the best *ambient* media campaigns are those that place the medium at the center of the communication. These blend with the environment and according to Olamendi (2010) are part of the place and its own idiosyncrasy, going unnoticed as advertising, and even demanding more creativity than investment money. Furthermore, despite the fact that the placement of advertising messages of this type usually has little scope in its application, due to its high impact it generates the use of other media such as social networks for its dissemination, so, depending on the creativity and impact, that will be its scope.

Guerrilla marketing. Communication tools whose main objective is to provoke a great impact on its users, they are identified by creative actions in urban spaces and sometimes provide experiences as they interact with consumers. This tool creates immediate responses and can be divided into four fields, which are: streets or public places, events, everyday products, and internet.

The use of any strategy must be clear about the message to be conveyed, which is related to the desired objectives that are intended to make known, and the scope you want to achieve; it is also essential to take into account what already exists on the subject and what has been done, and you can not move forward if you do not know the real situation of the message and the proposal.

The social responsibility strategies that are promoted must converge in different areas of society and must also be consistent with the ideals of the organization. Nowadays, companies are constantly monitored by their publics, so, when resorting to pro-social strategies, the organization must take care not only of its external public but also of its internal organization, an act that goes hand in hand with the ideal of a common good and social change. Likewise, alternative means of communication will not only be used to disseminate messages but also to interact with each of its *skateholders*. The main objective of such adoption is the growth of society and the company.

The Importance of the Medium

McLuhan (1996) defines the medium as the message itself, so the medium is everything, not only for the content of the message but for the connotation that exists in it. In order to achieve social inclusion of corporations and make an impact on society, it is necessary to choose the most ideal medium for the dissemination of the message.

The alternative media, by modifying the environment, allow to arouse in the receivers sensory perceptions of unique proportions. The media in which a message is disseminated not only modifies the environment in which one lives, but also modifies the individual in it. For McLuhan (1996) the media are nothing more than an extension of the human being. In such a way that any sense is capable of altering one's own way of thinking and acting, and what better than this prolongation to generate dialogues in a social communication environment.

Ambient Media

What's Behind a 2 Euro T-Shirt?

In April 2015 in Berlin, a vending machine of basic T-shirts was placed at 2 euros, a price that, being very cheap, attracted the attention of people who approached to buy them, however, when entering the coins they were met with a surprise; instead of the T-shirt falling, a screen would light up showing a video and the following message: "Meet Manisha, one of the millions of people who make our cheap clothes for less than 13 cents an hour, for 16 hours a day. Do you still want to buy this T-shirt for 2 euros?". After that, shoppers could choose whether to buy the T-shirt or donate the money.

The video showing such purchases along with consumers' reactions went viral with more than 2.5 million views, and also managed to capture the attention and participation of celebrities and famous brands.

This campaign with the support of an alternative communication and advertising resource was made with the aim of raising awareness about the conditions of workers in the textile field, as well as their rights and ways of life. (*Fashion Revolution*, 2015).

Guerrilla *Marketing* Lack Of Sensitivity In Motorists.

A daily problem around the world is faced by people with different abilities in reserved spaces in parking lots, which are rarely respected. It was for this reason that the brand Tree Life in collaboration with the advertising agency J. Walter Thompson Metro (2015) decided to create a strategy to raise awareness of this problem.

In the city of Georgia, 70 wheelchairs were parked in places reserved for motorists, leaving no space for them and causing great impact on its inhabitants, however, the message did not stop there. The event was shared through social networks, such as Facebook and Instagram. It even reached local television stations and became a viral message.

Both cases of social responsibility presented above promote the insertion of organizations into society, and not only that, but also the insertion of society into a reality that they ignored or wanted to let pass. This type of campaign promotes the participation of different sectors which together promote an alternative to improve the quality of life.

4. Conclusion

Actions to generate social responsibility have become increasingly complex, so it is suggested that companies give themselves the opportunity to experiment with the implementation of creative alternative means of communication that promote social change. The alternative media, due to their characteristics of high creative doses, play an important role in the intervention of the change of attitudes and the implementation of values of the public, using creative strategies that have an impact and remain in the consumer's mind. The company has to make use of several strategies, it cannot work alone, it is necessary the active participation of its public, to establish relationships that are not only of buying and selling, but of a social commitment, that allow them to walk on the same path of social responsibility. Therefore, these tools promote active interaction with the consumer. The benefits of these alternative media are economic for companies, in addition to other characteristics such as versatility, great impact, possible viral or word-of-mouth phenomenon and greater demand and positioning of the company.

However, this article not only seeks to increase the economic value of the organization, but also the moral value of the same through social responsibility experiences, where alternative media with the support of communication strategies play a fundamental role in the fulfillment of this objective; promoting social value to generate corporate reputation.

The evolution of alternative media and of the companies that adopt such media to improve their quality and presence in the market, has been one of the foundations for which it is proposed to make a change in society, ensuring a set of interests beyond the economic, referring to a contribution by corporations to improve the quality of life of people.

If these ideals are adopted, a communication of economic and social value will be achieved, where people can feel identified not only with a product or service but with a reality that belongs to everyone, and that, for the same reason, it is the task of society to contribute to its growth and improvement. Addressing social problems from these alternative means proposes a call for attention to social agents, and their different nuclei to take care of them; firstly to know them, and secondly to implement them strategically. In addition, mention is made of the benefits of the inclusion of the media in the organization to influence society, which go beyond economic benefits, since it is proposed to create an environment of social communication.

It is no longer enough to attend to social responsibility actions in a utopian way, it is necessary to act from an integral social responsibility that makes a difference, and what better with creative actions that generate high impact within the implementation of the different alternative means of communication. This proposal is not only for large corporations but also for small and medium-sized companies and even more so for society as a whole. It is time to promote not only a brand experience, but also a social responsibility experience. "We went from philanthropy to Corporate Social Responsibility and sustainability and now we must move on to the creation of shared value" (Kramer and Porter, 2006).

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Chapter 3 Capacities and abilities: Factors of entrepreneurial intention among young students

Capítulo 3 Capacidades y habilidades: Factores de la intención empresarial entre los jóvenes estudiantes

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Abstract

Creating companies is undoubtedly an activity that generates important benefits, in this sense it is well known that companies owned by women in recent decades have been increasing in number, managing to establish solid companies, the business field study, as far as we know, is of a multidisciplinary character, in this sense, the theory of entrepreneurial behavior can explain the entrepreneurial intentions of an individual to start a business, therefore this work aims to relate the factors of entrepreneurial intention (capacities and abilities) among young women who are students of six bachelor's degrees at UAEM Atlacomulco University Center. Statistics were carried out to identify the relationship between entrepreneurial intention (capacities and abilities), which in turn includes eight indicators such as recognition of opportunities, writing a business plan, recruiting, estimating costs, marketing, convincing, negotiating and, productivity and women students. The main results indicate that this group of factors are not related in all degrees in the same way, even in some it is not significant.

Entrepreneurial intention, Capacities, Skills, Entrepreneurs, Business creation

Resumen

Crear empresas es sin duda una actividad que genera importantes beneficios, en este sentido es bien sabido que las empresas propiedad de mujeres en las últimas décadas ha ido en aumento logrando establecer empresas sólidas, el estudio de campo empresarial como es bien sabido, es de carácter muldisciplinar, en este sentido, la teoría de comportamiento emprendedor puede explicar las intenciones empresariales de un individuo para la puesta en marcha de un negocio, por tanto este trabajo tiene como objetivo , relacionar los factores de intención emprendedora (capacidades y habilidades) entre las jóvenes estudiantes de seis licenciaturas del C.U. UAEM Atlacomulco. Se realizaron estadísticos para identificar la relación entre la intención emprendedora (capacidades y habilidades) que a su vez incluye ocho indicadores como reconocimiento de oportunidades, escribir un plan de negocios, reclutar, estimar costos, mercadotecnia, convencer, negociar y, productividad y las estudiantes mujeres. Los principales resultados indican que este grupo de factores no se relacionan en todas las licenciaturas de la misma manera, incluso en algunos no resulta significativo.

Intención emprendedora, Capacidades, Habilidades, Emprendedoras, Creación empresas

Introduction

The creation of companies is a multidisciplinary field because several areas have nurtured it, however, so far there is no consensus to define the field, though, there are theories that focus on intentional behavior since they claim that it helps to explain why many entrepreneurs decide to start a business, therefore, these theories indicate that the intention to venture is a voluntary act of people who have entrepreneurial attitudes and knowledge in relation to entrepreneurship.

The literature review has revealed the existence of several studies on this construct in companies owned by men, more than those that focus on companies owned by women, despite the fact there is a significant percentage of successful, established companies, founded and run by women.

On one hand, following the first phase of the business creation process provided by the Global Entrepreneurship Monitor which shows starting a business potential as an individual who intends to venture, making it a fundamental agent to detonate the start-up of a business, Research work was detected that address the entrepreneurial intention in young university students, which do not make a distinction between the subjects of the samples that they address in those works, no studies that address university women and entrepreneurial intention were identified.

On the other hand, three lines of research created in the 90's were detected that address entrepreneurial intention and that have been replicated in recent research, which deals with subjective indicators for business behavior and the decision to start running a business.

Therefore, the central hypothesis that is proposed is the analysis of the entrepreneurial intention factors (perception towards entrepreneurship, social influence regarding entrepreneurship and abilities and capacities associated with entrepreneurship) allow us to identify which are those that are related to young women students of the UAEM Atlacomulco University Center, for business behavior, however, it is important to note that for this work only the results of the group of factors corresponding to the abilities and capacities associated with entrepreneurship are shown, which is made up of eight indicators (recognize opportunities , write a business plan, recruit, estimate costs, marketing, convince, negotiate, productivity).

The work is structured from a brief review of the literature about the evolution on the entrepreneurial field. Immediately afterwards, the women entrepreneurships are described, followed by the relevant theories in the entrepreneurial field, pioneering theories on the entrepreneurial intention construct, as well as the theoretical model that has been selected for this work, and finally, the results and conclusions are shown.

Evolution on the entrepreneurial field

Micro, small and medium-sized companies are of great relevance in all parts of the world, since they are generators of a large amount of employment, as well as regional and local development (Saavedra and Saavedra 2014).

Likewise, according to data extracted from the National Institute of Statistics and Geography (INEGI) in the section of Statistics and National Survey on Productivity and Competitiveness of Micro, Small and Medium Enterprises (ENAPROCE) for the year 2015, MSMEs represent ninety and seven percent of all companies, generate seventy-nine percent of employment in the population and contribute forty-two percent of the Gross Domestic Product (GDP) in Mexico, because of this, the government has been interested in supporting and incentivize entrepreneurs in the creation and development of these companies (Nava, 2013).

At the same time, a worrying problem in Mexico is the high failure rate of MSMEs, since, according to Cruz, López, Cruz and Meneses (2016), 75 percent of new companies in the country fail two years after starting their activities.

With the aforementioned, the need for the survival of these companies by governments has led researchers to study the causes of the main problems of MSMEs and their deficiencies in order to have greater stability and lifetime in the market (Clark, Villareal, and Padilla, 2015), some problems faced by this type of companies is the lack of business culture, that is, these types of companies do not have a mission, vision, and values, in addition to the absence of a strategic study on market needs, as well as poor administration (García, 2015), due to this, forty-three percent of companies fail (Cruz et al., 2016).

In this context, García (2015) recognizes other elements such as the lack of training of entrepreneurs, the lack of personnel that comes from the financial need, in the same way, Clark et al., (2015) have found other factors that cause the failure of MSMEs, such as leadership absence, excessive personal expenses and without control, a poor delegation of responsibilities and decision-making, lack of planning for succession that results in problems between generations, the very competition between these types of organizations.

Moreover, there is a group of researchers who are dedicated to studying the subjective factors of entrepreneurial intention that directly impact the entrepreneur and are important for the creation of companies such as motivation, abilities, leadership, professional experience, economic factors.

For their part, Morales, and Rodil (2014), Nava (2013) point out two basic sources of financing among entrepreneurs, these being their own resources, which are personal savings, and the resources of third parties, which come from relatives, suppliers, financial or government institutions. Likewise, social capital is a determining factor for the development of the entrepreneurial process, social relationships with entrepreneurs provide knowledge for the business.

Following this order of ideas, the literature review has allowed us to recognize that the business field is multidisciplinary due to the various contributions of different disciplines with different approaches (Diez, 2016), therefore, it is detected a pioneering classification on the creation of companies and various approaches proposed by Veciana (1999) which consists basically of four areas. Firstly the economic approach, which encompasses the theories that explain on the basis of economic rationality; for its part, the psychological approach investigates the entrepreneur based on certain attributes or characteristics that this person must have. Likewise, the sociocultural, also called the institutional approach, analyzes the factors of the environment that motivate the entrepreneurial activity, finally, the managerial approach, integrates the theories that refer to the fact that the creation of companies depends on the knowledge in the areas of economics and management (Espíritu, 2011).

Women Entrepreneurship

In the world, companies owned by women are equivalent to one for every three companies owned by men (Halim, 2020). In Mexico, according to the Milenio portal, companies owned by women in the country equal 36.6 percent. These companies employ around two million 904 thousand 432 people, which is equivalent to approximately 10.7 percent of the employed population in the country (Ochoa, 2020). That is why studies carried out worldwide on female entrepreneurship are mentioned below. In the American continent, specifically in the United States, there is the research of Smith-Hunter and Boyd (2004) on the theoretically supported explanation of the partial differences observed among women entrepreneurs. In the European continent, in Spain specifically, Langowitz and Minniti (2007) study the variables that influence the entrepreneurial propensity of women and if the variables have a significant correlation with the differences between sexes; also, Díaz-Casero and Cols (2007), determine the evolution of the situation of female entrepreneurs. Finally, in Latin America, studies were found in Bolivia by Méndez (2003), who shows that female participation in the labor force in the formal sector is 15.2 percent and 53.2 percent in the informal sector.

Likewise, Weeks and Seiler (2001) carry out a study on female entrepreneurship in Latin America and find that between 25 and 35 percent of employers and self-employed workers in the region are women, so that between a quarter and a third of the micro, small and medium (MSMEs) companies are owned by women, therefore, it can be said that there is a presence of women entrepreneurs in the female market. In the same line, in Mexico there are few studies on female entrepreneurship and women entrepreneurs, among the inquiries found in this context, Escamilla (2012) in the State of Mexico is mentioned, who makes a theoretical approach regarding entrepreneurship. and its evolution, in the same state, Montoya (2013) focuses on analyzing the importance of human capital, social capital and the demographic factor that influence the growth expectations of women entrepreneurs in some municipalities in the region, Elizundia (2014) analyzes the personal and social factors that influence the probability that women become entrepreneurs in Mexico, in the same way, Guerrero, Gómez, and Armenteros (2014) determine the factors with the greatest influence on female entrepreneurship, contrasting the profile of women entrepreneurs from the cities of Torreón and Saltillo, in Coahuila, Mexico, research motivated by the great growth of the participation of women in the world of work.

Also Compeán, Belausteguigoitia and Navarrete (2015) carry out a study in Mexico City and in León, Guanajuato to find out the main motivations of entrepreneurs or businesswomen to start, develop and keep their business, on the other hand in Tamaulipas, Briseño, Briseño and López (2016) study the factors that influence business entrepreneurship carried out by women in Mexico, identifying both the characteristics of the company and the businesswoman as well as the obstacles and impact of business activity.

Relevant theories in the entrepreneurial field

In this context, another more recent work such as that of Chávez and Vargas (2012) presents another group of theories that address the business field, among the main ones it is mentioned the role theory, which explains how in some geographical areas there are more entrepreneurs and entrepreneurship activity than in others, mainly influenced by external factors such as the industrial sector or entrepreneurial figures to follow (Nueno, 1996), as well as the theory of incubator, who addresses the importance of incubator organizations that influence a person's decision to start a business (Chávez and Vargas, 2012).

Also, the theory of values is said to be of utmost importance for the study of entrepreneurship since it is the guideline of human behavior towards personal fulfillment and social transformation, besides, there is the theory of personality traits, this approach considers that the entrepreneur or businessperson has certain attributes that form a psychological profile of business behavior (Espíritu, 2011).

On the other hand, another group of researchers who propose different theories to those already mentioned in previous paragraphs was also detected, among them, the theory of networks, which indicates that to create a company it is necessary for the entrepreneur to maintain social relationships with entrepreneurs who can provide ideas and knowledge for the creation of the new business (Fernández and Junquera, 2001); the theory of marginalization or triggering event is based on the fact that the individuals most likely to create a company are the misfits or marginalized, that is, those people who have been exposed to negative events both in the workplace such as unemployment, dismissal, etc. and personal (Brunet and Alarcón, 2004). Finally, the institutional theory, which explains what are the institutional aspects that induce people to venture, institutions provide the entrepreneur with a field of economic growth and that is the means for this growth to exist (Boettke and Coyne, 2006).

Thus, in this context, it was found that the main authors approach the issue of entrepreneurial intention from different perspectives, as indicated by de Alonso (2012), Bird and Jelinek (1988) are shown as the precursors of the theories of entrepreneurial intentions, which affirm that the entrepreneurial intention is a voluntary act of people who have entrepreneurial attitudes and knowledge in relation to entrepreneurship, in the same way, it points out that the intentional behavior helps to explain why many entrepreneurs decide to start a business a lot before opportunities are sought.

Krueger (2007) states that the causes of entrepreneurial action are entrepreneurial intentions, these are considered as a link between the entrepreneur as an individual and the context within which an initiative is created; on the other hand, Lee and Wong (2004) consider that the entrepreneurial intentions are the first link in the evolution of the business creation process.

Similarly, multiple theories have emerged that seek to explain the behavior of the entrepreneur, however, it has been concluded that the most appropriate way to study this phenomenon is through intention models (González, Valantine, Pérez, Aguado, Calabuig and Crespo, 2016), which predict possible behaviors that can be transformed into the start-up of a business.

Recent studies such as those by Adum and Orellana (2021), Bravo, Bravo, Ramírez, and Ferrín (2021), Diaz and Silva (2021), Flores, and Medalid (2021), Sandoval (2021), show the importance of the entrepreneurial intention to start a business between women and men students of Universities in various countries.

Pioneering theories about the entrepreneurial intention construct.

In the 90's, three new models of intentions emerged, which have had greater importance and are the most used in research and studies (Soria, Zúñiga and Ruiz, 2014), these being the one proposed by Shapero and Sokol (1982), known as the Entrepreneurial Event Model (EEM), where entrepreneurship is understood as an event influenced by various factors such as entrepreneurial experiences, skills, risk, among others. This model depends on three elements of personal choice to found a company: the perception of desirability, the perception of viability and the propensity to act.

Later, Ajzen (1991) reveals his model called Theory of Planned Behavior (TCP), this theory has been the most used for research purposes regarding the study of human behavior, as it explains that behavior is a function of beliefs the which intervene in a certain behavior and are considered premises that determine the factors that precede a planned behavior such as the referred attitudes, subjective (social) norms and behavior control (Soria et al., 2014).

After a while, Krueger and Brazeal (1994) elaborated a model named Entrepreneurship Potential Model (EPM) that is based on the models of the aforementioned authors, which explains that the desire and viability in entrepreneurs leads them to prioritize opportunities on threats through an intentional process (Ubierna, 2015), on the other hand, this model also has great influence from the triggering event theory.

It is important to note that the studies that have addressed these three models have been carried out worldwide, such is the case of the European continent, Romero and Milone (2016), Rodríguez (2015) and Alonso (2012) these authors base their research on entrepreneurial intentions under the Ajzen approach, aimed at men and women in companies in the life sciences and research sector (hospitals, medical centers, laboratories, research organizations) carried out in Spain; In the African continent, Yatribi (2016) applies the Krueger and Brazeal model in men and women with engineering degrees in public and private companies in Morocco.

Likewise, other studies in Latin America were identified, such is the case of Hernández-López, Moncada-Toro and Henao-Colorado (2018), Solarte, Solarte and Arcos (2015) base their research on the Shapero and Sokol model of men and women of the Colombian population, in Mexico Morales, Álvarez and Sánchez (2015), Bueckmann (2012) focus the study of entrepreneurial intentions in academic institutions, mainly in students (men and women) of different careers, implementing the models of Shapero and Ajzen in Tamaulipas, Monterrey, Mexico City, Guadalajara and the State of Mexico.

On the other hand, Guzmán and Rodríguez (2008) point out that information is scarce on the participation of women in business activity and in studies that address business intentions for the female gender, even though it is well known that companies owned by women are successful. Compeán, Belausteguigoitia and Navarrete (2016) point out that in almost all regions of the world women are more likely than men to work alone, they are emotional leaders since they maintain the balance between company and family, they stand out for their ability to offer innovative products and services, their ability to establish relationships with clients and workers, promote values, develop different tasks and priorities, and have a higher level of reflection and analysis for decision-making.

Despite this, no studies were found on the entrepreneurial intentions of female university students, only works of entrepreneurial intentions were found in young university students but focused on men and women, the exclusive selection of the female gender is not made, since they have abilities and entrepreneurial qualities regarding the management and creation of a business (Guzmán and Rodríguez, 2008).

Regarding the investigations related to studies of entrepreneurial intentions in university students, some were detected, which have been classified by continent; According to the literature review carried out, in the European continent there are the works of Arribas and Vila (2004), Maluk (2014), Espíritu y Sastre (2007), Espí, Arana, Heras and Díaz (2007), Moriano , Palaci and Morales (2006), Romero and Milone (2016), Alonso (2012) in Spain; In Latin America there are works such as those of Ackerman, Cardozo and Cervilla (2007) in Venezuela, in Mexico, Espíritu (2011), Morales, Álvarez and Sánchez (2015), Ramírez, Almanza and Negrete (2005) in the states of Colima, Tamaulipas and Guanajuato.

In the state of Mexico, specifically in the northern zone, two important investigations were found that are a theoretical and empirical approach to the study of the field of intentions, which include the work of Onofre (2013).

As it has been already observed in previous paragraphs, the entrepreneurial intention is an object of study of great importance because if an individual has the intention to start a business it leads him to business conduct, then if he has business conduct, the setting up of the business is given.

Consequently, there are various studies on entrepreneurial intentions in the world, however, in Mexico, these studies are scarce and have only been found in universities in some parts of the country such as Tamaulipas, Monterrey, Mexico City, Guadalajara, and the State of Mexico.

On the other hand, there is also very little information from studies on women entrepreneurs and entrepreneurial intentions, in addition to this, research on women entrepreneurs and entrepreneurial intentions in university students continues to be lacking and insufficient.

The Autonomous University of the State of Mexico (UAEM) is a state public institution of higher education headquartered in the city of Toluca, Mexico, which has schools, faculties, university centers and professional academic units.

The Atlacomulco University Center houses six careers which are: computer engineering, degree in administrative informatics, degree in law, degree in psychology, degree in administration and, degree in accounting, of which four belong to the social area, one to the area of health sciences, and one more to the area of computer science.

It should be noted that an exploration of the curricula was carried out with the coordinators of the bachelor's and engineering degrees. It was found that from the economic-administrative area, the bachelor's degree in administrative informatics, accounting and administration contain subjects from the entrepreneurship area such as investment projects and business development that are taught in the seventh, eighth and ninth semester, in addition to implementing strategies to promote entrepreneurship such as forums and courses in the business incubator, while the degree in law, psychology and computer engineering, in their curricula do not have any subject related to entrepreneurship, this means that the careers in the economic and administrative area are the ones that have the most possibilities for students to be potential entrepreneurs who have the intention for business conduct.

Theoretical model selection

The present work is solidly based on the research carried out by Rueda, Fielden and Herrero (2012), which includes three groups of important factors for the entrepreneurial intention of young university students, these being the perception towards entrepreneurship, the social influence regarding entrepreneurship, as well as the skills and abilities of the individual to develop an entrepreneurial project. However, it is important to emphasize that this work will only show the group of factors corresponding to abilities and capacities, which is made up of eight indicators (Recognize opportunities, write a business plan, recruit, estimate costs, marketing, convince, negotiate, productivity).

Figure 3.1 Indicators Diagram
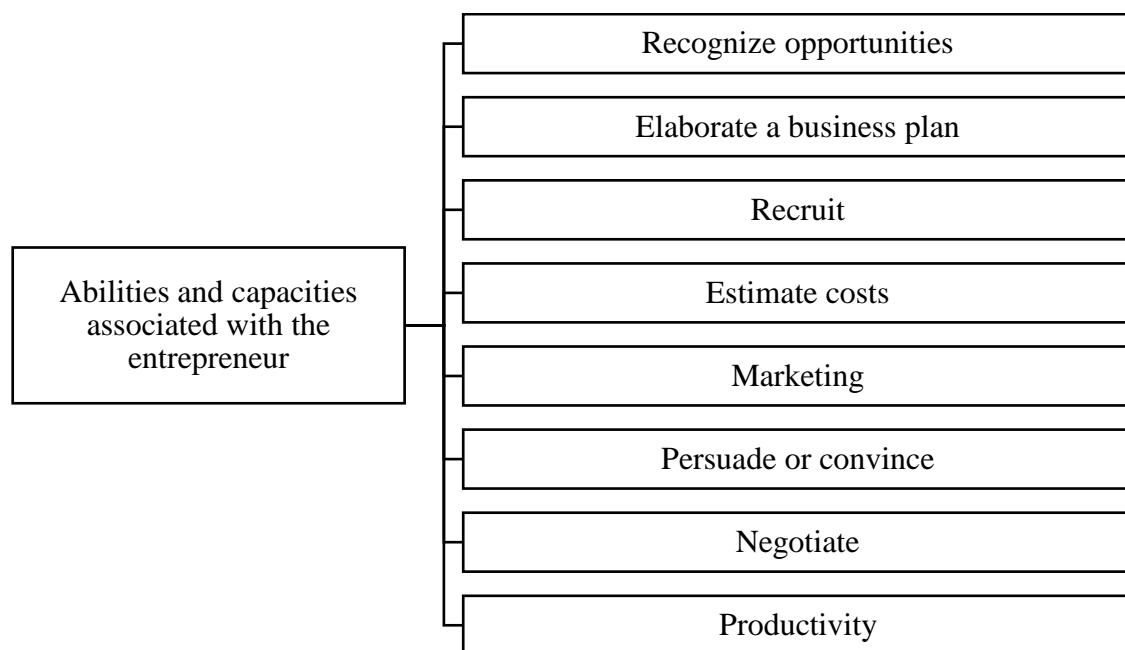
Source: Own Elaboration

Methodology to develop

Universe of study

The universe under study is made up of all the female students enrolled in the fall 2018 B school period of the six bachelor's degrees: Administration, Administrative Informatics, Accounting, Law, Psychology and Computer Engineering offered by the UAEM Atlacomulco University Center who study the first, third, fifth, seventh and ninth semester, having a total of 810 female students (see annex 1), registering the following:

a. In the first place, the bachelor's degree in Administration, a total of 157 female students are enrolled in this degree, distributed in the following semesters: 34 women in the first semester, 32 women in the third semester, 29 women in the fifth semester, 29 women in the seventh semester and 33 women in the ninth semester.

b. Secondly, the bachelor's degree in Administrative Informatics, a total of 70 female students are enrolled in this degree, distributed in the following semesters: 8 women in the first semester, 14 women in the third semester, 10 women in the fifth semester, 13 women in the seventh semester and 25 women in the ninth semester.

c. In third place, bachelor's degree in Accounting, in said bachelor a total of 134 female students are enrolled, distributed in the following semesters: 27 women in the first semester, 31 women in the third semester, 23 women in the fifth semester, 24 women in the seventh semester and 29 women in the ninth semester.

d. In fourth place, the Law Degree, in this degree a total of 176 female students are enrolled, distributed in the following semesters: 49 women in the first semester, 34 women in the third semester, 29 women in the fifth semester, 30 women in the seventh semester and 34 women in the ninth semester.

e. In fifth place, the Degree in Psychology, in this degree a total of 228 female students are enrolled, distributed in the following semesters: 48 women in the first semester, 58 women in the third semester, 29 women in the fifth semester, 41 women in the seventh semester and 52 women in the ninth semester.

f. In sixth and last place in Computer Engineering, a total of 45 female students are enrolled in said Engineering, distributed in the following semesters: 11 women in the first semester, 12 women in the third semester, 6 women in the fifth semester, 5 women in the seventh semester and 11 women in the ninth semester. Data was obtained with information given by the Institution's School Control Department.

Population under study

In this context and for the present research, the target population is considered to be constituted only by female students from the fall 2018 school period B of the six bachelor's degrees; Administration, Administrative Informatics, Accounting, Law, Psychology and Computer Engineering offered by the UAEM Atlacomulco University Center, thus registering that the number of female students of the bachelor's degree in Administration enrolled in that period corresponds to a total of 157 students, likewise, the bachelor's degree in Administrative Informatics has a total of 70 students, for its part, the bachelor of Accounting has a total of 134 students, while the bachelor of Law has a total of 176 students. In the same way, the bachelor of Psychology has a total of 228 female students and the Computer Engineering that registers a total of 45 female students, obtaining a total population of 810 female students.

Sample selection

To calculate the sample size, the general formula was used to calculate the sample, taking a 95% reliability and a 5% error, resulting in a total of 261 female students belonging to the fall 2018 school period B of the six Bachelor's degrees; Administration, Administrative Informatics, Accounting, Law, Psychology and Computer Engineering offered by the UAEM Atlacomulco University Center, subsequently the stratified sampling formula proposed by Hernández, Fernández and Baptista (2010) was implemented, thus obtaining the following distribution of women to be surveyed by career, 51 belonging to the Bachelor of Administration, 23 to the Bachelor of Administrative Informatics, 43 to the Bachelor of Accounting, 57 to the Bachelor of Law, 73 to the Bachelor of Psychology and 14 to Computer Engineering.

Table 3.1 Research Technical File

Geographic Scope	Local (UAEM Atlacomulco University Center)
Universe	Female students from UAEM Atlacomulco University Center
Universe size	810 female students
Application Mode	Survey through structured questionnaire
Sampling Method	Stratified sampling by degrees
Sample size	261 valid surveys
Sampling fraction	32.22%
Error	5%
Confidence Level	95%

Source: Own Elaboration

Measurement Instrument Design

Therefore, firstly, there is a block referring to sociodemographic data and, block two, referring to entrepreneurial intention. Likewise, the beliefs of the subjects regarding entrepreneurship, the perceived social influence regarding this behavior, and the perceived abilities and capacities that condition the subject's control to carry out their entrepreneurial project, which is composed of 8 approaches, which are measured through Likert scales using five positions, where 1 = Total disagreement, 2 = Somewhat disagree, 3 = Neither agree nor disagree, 4 = Somewhat agree, 5 = Total agreement. Once the blocks that constitute the measurement instrument have been mentioned, it is necessary to emphasize that this work only shows the results corresponding to the variable abilities and perceived capacities.

Coding of the variable abilities and perceived capacities

Abilities and capacities are the beliefs that potential entrepreneurs have that they have the skills, knowledge and experience necessary to start their business (Elizundia, 2014). For this research eight approaches are taken from the article prepared by Rueda, Fernández and Herrero (2012), on the abilities and capacities that female students with an entrepreneurial intention believe they possess for starting a business, Table 3.2 shows the coding of this variable and the indicators that comprise it.

Table 3.2 Coding abilities and capacities associated with entrepreneurship

CODING	ITEM	DESCRIPTION
IEPI	27. Recognize the potential of an idea / opportunity, which allows the emergence of a newly created company successfully.	Personal perceptions about the knowledge, abilities and experiences that are possessed to start a new business.
IEEP	28. Write a business plan, clearly and completely.	
IEEI	29. Recruit the right employees for a new project / company.	1 = Total disagreement
IEEC	30. Correctly estimate the costs of managing a new product / company.	2 = Somewhat disagree 3 = Neither agree nor disagree 4 = Somewhat agree
IESM	31. Select the best marketing approach to bring a new product / service to market.	5 = Full agreement
IECC	32. Convincing a customer to try a new product / initiative.	Nominal variable
IENP	33. Negotiate better prices with a supplier to ensure the success of the new company.	
IEPB	34. Work productively under continuous stress, pressure and conflict and make decisions under uncertainty and risk.	

Source: Own Elaboration

Instrument validation

The Cronbach's alpha (α) reliability test of the measurement instrument was performed, and because the questionnaire is not homogeneous, since the sociodemographic characteristics do not have the same measurement scale, they cannot be validated, but they are considered factors of great significance according to the theoretical basis. To this end, the Cronbach's alpha reliability test was applied to the dimensions that make up the entrepreneurial intention approaches. The results obtained show that the dimension of entrepreneurial intention contained in the sections of perception towards entrepreneurship, social influence, and abilities and capacities associated with entrepreneurship, exceed the level of reliability coefficient (α = 0 .906 respectively), therefore, considered an acceptable value according to Hair, Anderson, Tatham, and Black (1999).

Results

A bivariate analysis was performed which is used to study the relationship between two variables (Santiago, 2012). To carry out the bivariate analysis and identify whether there is a relationship between the study variables, the SPSS program was used to calculate Pearson's correlation coefficients[1] (r) between entrepreneurial intention and entrepreneurial intention factors, specifically skills and abilities. In six educational programs of the UAEM Atlacomulco University Center, the results obtained are described:

Regarding the abilities and capacities associated with the entrepreneurship of the bachelor's degree in administration, the crossing of the entrepreneurial intention variable with recognizing opportunities (IEPI) is significant with (0.401), as well as writing a business plan (IEEP) with (0.298) and estimate costs (IEEC) with (0.378).

Regarding the abilities and capacities associated with the entrepreneurship of the degree in accounting, no variable was significant for the entrepreneurial intention. Likewise, regarding the skills and abilities associated with the entrepreneurship of the degree in administrative informatics, no variable was significant for the entrepreneurial intention.

Regarding the abilities and capacities associated with the entrepreneurship of the degree in psychology, the crossing of the entrepreneurial intention variable with recognizing opportunities (IEPI) is significant with (0.561), as well as writing a business plan (IEEP) with (0.560), recruit (IEEI) with (0.423), estimate costs (IEEC) with (0.518), marketing (IESM) with (0.554), persuade or convince (IECC) with (0.613), negotiate (IENP) with (0.639), and finally, productivity (IEPB) with (0.378).

Regarding the abilities and capacities associated with computer engineering entrepreneurship, the crossing of the entrepreneurial intention variable with recognizing opportunities (IEPI) is significant with (0.832), as it is recruiting (IEEI) with (0.612), and marketing (IESM) with (0.554).

Regarding the abilities and capacities associated with entrepreneurship of the law degree, the crossing of the entrepreneurial intention variable with recruiting (IEEI) is significant with (0.300) and estimating costs (IEEC) with (0.352).

Acknowledgment

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[1] Pearson's correlation coefficient is a statistical test to analyze the relationship between two variables measured at an interval or ratio level, and is symbolized by r (Hernández and authors, 2010).

Conclusions

Starting from the objective set out in the present work, which was to relate the factors of entrepreneurial intention (capacities and abilities) among the young students of the six degrees of the C.U. UAEM Atlacomulco, the following conclusions were obtained:

Firstly, it is important to emphasize that the group of factors corresponding to the abilities and capacities for entrepreneurial intention is made up of eight indicators, which were not entirely significant for any of the six careers offered in the C.U. Atlacomulco, however, for the degrees in Administration, Psychology and Computer Engineering, they were significant, this means that the young students of these careers recognize the potential of an idea and then materialize it, as Elizundia (2014) points out, while for the degrees in Accounting, Administrative Informatics, and Law, this indicator was not significant.

Likewise, the indicator writing a business plan stood out in the degrees in Administration and Psychology, which refers that the students of these degrees know how to develop the strategies to carry out the start-up of a business and thus achieve its objectives, on the contrary, to the degrees in Accounting, Administrative Informatics, Law and Computer Engineering this indicator was not significant, this leads to the indicator estimate costs that stood out in the degrees in Administration, Psychology, and Law, where the students know how to make forecasts of the resources that they will use in the future To carry out a business, another indicator that was significant is to recruit, for the degrees of Psychology and Law, where the students know how to select the ideal personnel for a certain position, while for the degrees of Administration, Accounting, Administrative Informatics, and Engineering in Computing this indicator was not significant.

Another significant indicator for entrepreneurial intention is marketing, where the degree in Psychology and Computer Engineering stood out, the students belonging to these careers know of strategies to introduce a new product to the market, unlike the degrees in Administration, Accounting, Administrative Informatics, and Law that do not possess this ability. For the degree in Psychology, the indicators, convincing, negotiating and productivity were also significant, this means that the young students of this degree have skills and knowledge about persuading a person, seeking an agreement to obtain a benefit and, in addition, complying with the responsibilities that correspond to you. Benavides (2004) points out that entrepreneurs are people who have a special ability to solve problems and face unstructured situations, being important the possession of a series of knowledge and a starting training level that allows them to successfully complete their project, Similarly, Rueda, Fernández, and Herrero (2012) those surveyed with a firmer purpose of developing an entrepreneurial project consider that they have greater capacities and management skills, both to identify business opportunities, to specify an action plan, access to the necessary resources and develop operations correctly.

Regarding the limitations of this work, it is mainly found that not all the factors corresponding to the entrepreneurial intention are presented, but we only show the factors corresponding to the capacities and abilities that make up eight indicators, likewise we consider that other limitations of the work global and that have an impact on this are the little information in articles on entrepreneurial intention in university students and, above all, in women in our country. The selection of the sample was difficult because in two careers there were very few women. The questionnaire was modified because some items of the sociodemographic characteristics of the base questionnaire were not transcendental for the research in university women, in addition, they caused confusion in the students at the time of answering and, finally, the low availability of university students for the application of the questionnaire.

Concerning future lines of research, a comparative study between the University Centers of UAEMEX would be important to generate the necessary strategies in the entrepreneurship programs that the University itself has developed in order to strengthen the entrepreneurial intention among students, likewise, analysis with other statistical techniques would be important and the inclusion of other variables.

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Chapter 4 Sustainability: Notes on human relationship with the environment in Baja California Sur

Capítulo 4 La sustentabilidad: Apuntes sobre la relación humana con el ambiente en Baja California Sur

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Abstract

The human relationship with the environment in Baja California Sur has undergone an extremely interesting process, since it managed to remain in balance from the time of the hunter-gatherers until the 20th century thanks to its insularity; However, based on bibliographic and newspaper analysis, interviews and participant observation, our inquiries suggest that it is, perhaps, in the last three decades of the 20th century with the inauguration of the transpeninsular highway that the ecological balance that was sustained during several centuries. Indeed, with the inauguration of the transpeninsular highway in 1973, new extractive industries and also new inhabitants arrived, in addition to the increasingly large flow of visitors that also damages and pollutes, proof of this is that COVID-19 arrived by plane on board of an Englishman invited to a wedding in Cabo San Lucas.

Sustainability, Environment, Society, Insularity

Resumen

La relación humana con el ambiente en Baja California Sur ha vivido un proceso sumamente interesante, pues logró mantenerse en equilibrio desde el tiempo de los cazadores-recolectores hasta el siglo XX gracias a su insularidad; sin embargo, con base en análisis bibliográficos, hemerográficos, entrevistas y observación participante, nuestras indagaciones apuntan a que es, quizá, en las tres últimas décadas del siglo XX con la inauguración de la carretera transpeninsular que se rompió el equilibrio ecológico que se sostuvo durante varios siglos. En efecto, con la inauguración de la carretera transpeninsular en 1973 llegaron nuevas industrias extractivas y también nuevos habitantes, además del flujo de visitantes cada vez más nutrido que también daña y contamina, prueba de ello es que el COVID-19 llegó en avión a bordo de un inglés invitado a una boda en Cabo San Lucas.

Sustentabilidad, Medio Ambiente, Sociedad, Insularidad

Introduction

Addressing issues that have emptied so many inkwells, such as ecology and the environment, has placed us as researchers on the slippery slope of fear of redundancy. Therefore, this text does not intend to be more than a diverse vision of a problem that concerns us all.

Considering the importance of the conflictive relationship between society and nature, we proposed through these notes, to provide an overview of its evolution in Baja California Sur (BCS), seeking to understand from different theoretical perspectives the natural and social processes that shape current realities.

The systemic and multifactorial nature of the problem led us to conduct a literature review that would allow us to present a non-exhaustive, but representative overview of the theoretical development in this regard, based on epistemological proposals that attempt to understand it with an articulating, transdisciplinary and complex lens.

The review of these materials led us, first, to consider the possible forms of relationships that hunter-gatherer groups had with their habitat before the Jesuit occupation and the environmental impact that the arrival of missionaries, soldiers and miners brought about by significantly modifying the ecosystem through the establishment of ranches, the introduction of new plant and animal species, as well as the channeling of water from the wetlands.

We then describe how the process of transformation of the Southern Californian ecosystem occurs as a result of the growth of cities, the increase in population based on national and foreign migration, the coming and going of different economic and productive activities, in addition to governmental decisions that determine the legality or illegality of actions, ranging from the construction of highways and the expansion of communications, to the indiscriminate exploitation of nature as a resource, as in the case of open-pit mining.

The doubts we had regarding the current forms of the relationship between society/Nature in BCS, led us to form a heterogeneous focus group, whose members shared their opinions, since we consider that the interpretations of the inhabitants of our environment, the knowledge and representations that are configured around the subject, considerably broaden our view of the direction that the environmental problem is taking in our entity at the biota and cultural level.

More and more people are concerned about the future of the planet, often from different scientific perspectives and angles of activism, but all agree on the importance of a series of necessary rethinking in all aspects of human life and the value systems that underpin them, especially in relation to the habitat, the ways in which we have appropriated Nature, calling it a resource, and have used science and rhetoric to legitimize our empowerment.

For this reason, the present work explores, with a kaleidoscopic, holistic and even eclectic view (to approach and value other knowledges). It is a joint approach by two anthropologists and a semiotician, a team that starts from the need to approach research problems as complex processes configured in a complex network, in a system where ecosystemic and cultural aspects are equally important. Our notes seek to approach, first of all, the cognitive processes themselves to theoretical-epistemological and methodological perspectives capable of being constructed and understood in and with the subjects/objects, to be analyzed and to confront our approaches on the Sudcalifornian reality with diverse theories and categorizations of academic and scientific character such as theories on superficial and deep ecology, bioethics, environmental holism, cultural ecology, second order epistemology, semiotics and complex thinking. It is a productive eclecticism, a transparadigmatic kaleidoscope to address a natural/social problem.

The way in which humanity has configured its relationship with the environment in the different stages of its history, serves us to understand the current state of affairs. In practically the entire planet, it seems that the first humans had not even conceived a notion of superiority with respect to their habitat; that idea was coming with the passage of time, the invention of artifacts and social structures of power. Baja California Sur is interesting, in this sense, not only for the fact of being our homeland (which should be enough), but for being considered at the same time inhospitable and seductive, always challenging settlers and migrants to look for different ways of sustaining human life.

The environment as a widespread concern

Science first turned its eyes to the environment at the end of the 19th century, and this interest gave birth to a new discipline: ecology. Among its initiators was the German biologist Hackel in 1935. For his part, the English botanist Tansley conceived the central notion of ecosystem, which distinguished the object of study of this discipline from those of other natural sciences.

In 1969, for the first time, there was a link between scientific ecology and awareness of the problem of the degradation of the natural environment, which affects food, resources, health and the psyche of human beings. In this way, progress was made from ecological science to ecological awareness. (Morin, 1996)

Indeed, scientific and social concern for the environment gained momentum in the 1960s, and this concern, expressed in the way of thinking and feeling of a large part of the societies of the time, spread from then on to the entire planet. The notions of nature and the position of human beings in the ecosystem transcended the scientific sphere and became part of the agenda of uneasiness for ordinary people.

We can then consider that scientific-technical development in this case and in many others served as an activator of social subjectivities. That is to say that the results of studies and research, through dissemination processes, had the necessary effect: the awareness of the members of society and with it the personal concern for the environmental situation and even the need-obligation to be informed about new knowledge on the subject. In spite of the fact that the common person and everyday life usually remain outside the ideological influence of scientific activity, to which, at best, they are a passive recipient, in the second half of the 20th century, in the face of the constant growth in the circulation of information, thanks first to the mass media and then to the massification of self-communication, the environmental issue appeared as a priority in the taxonomy of social problems for society as a whole.

With this and the negative consequences of some scientific results, the use of science for war and the threat of new diseases, added to the private financing of research and, therefore, the economic speculation of the results, people's interest was transformed into action, generating the emergence of social movements and the formation of pressure groups that have been achieving an important influence on cognitive advances tending to surpass classical rationality. Proof of this is the progress of environmental holism and bioethics, among others, strongly influenced by citizen demands based on the environmental problem and the use of medical discoveries and technologies[1].

The emergence of theoretical proposals such as global bioethics, environmental holism, second-order epistemology and the complexity approach, constitutes a kind, if not a sharp break with classical rationality, then a considerable broadening of the scientific view, tending to understand and explain processes that need to be questioned, oriented or abated in the forms that the society/Nature relationship is taking. Global bioethics is considered as an environmental ethics that distances itself from the classical ideal of objectivity by proposing a reformulation of the object of science that includes the valuational aspect in the composition of knowledge, thus going beyond the scientific knowledge/everyday life dichotomy.

Holistic environmentalism modifies the concept of Nature and the place that human beings occupy in it by ceasing to consider them as separate entities capable of appropriating Nature, modifying it and, if necessary, destroying it. It thinks of the human species as what it is: an integral part of the ecosystem and, therefore, its actions and inactions on Nature will have their consequences.

Second-order epistemology questions what is understood by scientific objectivity, as well as the subject/object dichotomy and the place that the method occupies in the process of knowing. Such a position is quite operative for the researcher who is freed from scientistic ties that force them to have only one point of view to legitimize their reflections and gives them the possibility of exploring what they seek to understand with a different viewpoint.

Complex thinking questions the classical vision of rationality and proposes a transition from the ideal of simplification to a conception of complexity which allows us to account for the articulation of the different aspects with which a given phenomenon is configured, in this case: the human relationship with the environment in Baja California Sur.

Since the 1960s, advances in cybernetics, information theories and systems theory, together with the emergence of a set of unresolved scientific and practical problems, among which the environment occupies one of the central places, have driven research away from the classical ideal, which in the 1990s began to be grouped into what is now known as complexity studies or complex thinking. (Sotolongo & Delgado, 2006). These new perspectives, beyond their transdisciplinary, transparadigmatic nature, allow us to think of the environmental problem as an issue to be understood from all possible perspectives, making use of various strategies to reflect on the development of society/Nature.

A complex problem

At the end of the sixth decade of the twentieth century, environmental deterioration in some parts of the planet put the problem at the center of all kinds of discussions, regarding the course that humanity had followed in its unattainable race for economic development. It was then considered that we were facing a scientific problem that could be approached from different perspectives, mainly from the natural-scientific and technical point of view, since it was thought that the sciences were the only ones capable of providing knowledge about natural processes and of elaborating solution strategies to try to revert the effects that human errors were causing to the ecosystem.

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[1] We can think, for example, of the social reactions to the possibility of scientifically manipulating DNA, to cloning, to rumors about possible bacteriological wars, of which some conspiracy theories say that the emergence of SARS-CoV-2 is a part.

The first actions were aimed at increasing scientific knowledge to assess the damage and provide guidelines for implementing economic and financial mechanisms to solve the problem or mitigate its consequences. It was believed that the creation of decontamination systems designed by scientists, the facilitation of monetary investment and the implementation of legal measures such as fines would put a stop to the indiscriminate use of pollutants, but in reality, fines served to intensify capitalist competition, as they left out small polluters and helped those who had more money to pay for their fault and continue polluting, since they assumed that these resources could be invested in remediating the damage.

In addition, these measures opened up a series of possibilities for illicit enrichment through the purchase of the consciences of scientists, experts and auditors so that they would issue favorable opinions and thus avoid the closing of multimillion-dollar polluting industries. However, as mentioned above, the environmental problem quickly transcended the walls of research and decision-making centers to reach ordinary people, who began to worry because, in addition, the results of research and studies carried out in different parts of the world by great specialists made them co-responsible for the mess. It is not intended here to say that social and/or personal participation in the environmental issue is negative, on the contrary, but the social approach to the issue emphasizes the immediate impact on our lives and those of our descendants, without also considering the aspects related to nature as a whole and its articulations. The issue was revealed to us as a problem with no solution if we tried to separate it into parts, with segmented disciplinary and social approaches; it was a new type of difficulty that affected and therefore involved humanity as a whole. A fundamental solution was therefore required, a change in the relationship between society and nature.

"Among the revolutionary thinkers, true "philosophers of ecology", stands out the work of some precursors such as Lewis Mumford and Aldo Leopold, who in the thirties and forties of the twentieth century put forward some fundamental ideas towards a reconceptualization of the relationship between society and Nature". (Sotolongo & Delgado, 2006)

Lewis Mumford was among the first to establish the complexity of the environmental problem by determining the relationship between it, capitalist development, energy sources, materials, and social goals. He showed how from 1750 onwards, with the use of coal to generate energy and iron as the dominant material, coupled with power, profit and efficiency as social goals laid the foundations for the indiscriminate depredation of nature by capitalist society. As capitalism appropriated energy sources for its development, water, air and household pollution began to appear. The factories produced a frankly inhuman way of life that worsened day by day due to the concentration of urban life. The smoke produced by the combustion of coal became the "incense" of industrialism. (Sotolongo & Delgado, 2006).

The social sciences cannot remain on the margins of these fundamental concerns; anthropology makes important contributions, especially cultural ecology, which studies the relationships between a given society and its environment; the ways of life and the ecosystems in which they develop. Studies from this perspective require the analysis of behavior, ways of life and the relationships established among the members of society, but they also need to involve biology, economics and geography, since they understand that when a society is analyzed in its articulation with the ecosystem, we are not dealing with simple agglomerations of individuals of different species, but with systems of relationships established among different species organized by the habitat itself at different levels, ranging from the most organic to the most symbolic. Among the precursors of this vision, we find Leslie A. Whaite and Gordon Childe Childe. Whaite and Gordon Childe. (Bohannan & Glazer, 1999)

Arne Naess distinguished two visions of ecology: the superficial and the deep. In his proposal we find two important aspects: the theoretical-conceptual construction based on the degree of awareness of the relationship between society/Nature and two aspects of environmentalism as a social movement. This proposal is taken up and expanded by Fritjof Capra, who in the 1990s proposes a more general worldview: deep ecology as a paradigm of change, we will exemplify based on this proposal a little later, but it is worth differentiating right now between these two visions. (Capra, 1999) As mentioned above, superficial ecology refers to the environmentalist thinking that arises from citizens' concerns about the visible deterioration of immediate living conditions caused by the overexploitation of the environment, seen as a resource. From this arises the need to protect and conserve nature with a strictly anthropocentric purpose: to improve people's lives. Deep ecology, on the other hand, reflects by placing nature, not humanity, at the center of its concerns; it rejects the separation between nature and man/society.

In synthesis, while for superficial ecology nature is worthwhile insofar as it satisfies human needs, for deep ecology nature is worthwhile in its own right. In his book *The Web of Life*, Fritjof Capra refers to deep ecology as a new paradigm, which conceives the world as an integrated whole, instead of seeing it as a collection of parts. The epistemological limits of this proposal envision three obstacles to be overcome by environmental education: the idea of absolute legitimacy of scientific knowledge, its independence with respect to human values, and the legitimacy of objective knowledge to guarantee human dominion over Nature.

"Epistemological limits take specific form in economics and politics, in notions such as the overemphasis of economic value in political economy and in the way of thinking of contemporary man; and in the consummation of environmental damage in economic-social environments as a realization of the idea of man's dominion over Nature and also over other social environments that, from that logic of domination, should be assimilated and disappear." (Sotolongo & Delgado, 2006)

Think, for example, of the idea of ideological, political and spiritual domination and exclusion of some peoples over others and of some social groups over others. Cultural intolerance of the diversity of human environments is a clear proof of the environmental damage that historical man has inflicted on himself. This intolerance includes political and ideological subjugation and the imposition of social economic systems that affect human diversity. Such has been the case in BCS, from Spanish colonization to the present day.

Peculiarities of the Anthropocene in Baja California Sur

Based on the comments made in the preceding paragraphs, we can see that our understanding of reality is always mediated by culturally determined conceptual categories. Hence, since *Homo sapiens-demens* began to leave traces of its passage through the planet, each society, according to its circumstances, has conceived different ways of living and explaining its relationship with the world, always mediated by symbols, always conflictive, with the environment it inhabits. Currently, the reflection that requires the analysis of human life on the planet circulates in different ways around the concept of *sustainability*, however, we must recognize that this tessitura in the discursive polyphony that understands human beings in/from their environment is very recent. Thinking from sustainability necessarily refers us to the way in which concepts such as ecology and environment have been constructed. Edgar Morin points out the importance of understanding ourselves within this continuum; if we think of ourselves only as *sapiens*, we would have no way of understanding the violent relationship we have developed among ourselves and with Nature. (Morin, 1996)

But before recognizing the importance of this concern, we would like to briefly delve into the concept of the Anthropocene, coined by the chemist Paul Crutzen (Crosby, 2013, 37) to designate this last geological period which, although very brief in relation to the previous ones, has meant a change of monumental significance in which both human beings and the environment have been inevitably influenced and modified in a way that has increased as the species and its civilizing efforts have spread throughout the planet.

In order to approach our specific problem, we have thought of the process in four stages, according to the historical and social conditions that we can identify in the studies carried out by various researchers. The first stage is the pre-Hispanic stage, that of the hunter-gatherers, which refers to the indigenous groups that inhabited the mid-peninsula before the arrival of the Spanish colony. The second stage is marked precisely by the missionary action and the reconfiguration of the ways of life of the settlers. The third stage can be understood from the emergence of the ranch and other forms of community organization to the emergence of the cities and the arrival of modern life. The fourth and last stage is the one we are living in, called by some theorists the anthropocene and by others the capitalocene and characterized by the mediatization of culture, excessive consumption, the indiscriminate exploitation of Nature not only to meet human needs, but also for the enrichment and entertainment of people and corporations around the world, with the known environmental consequences, reconfiguring, in Baja California Sur, a new society of paradise sellers and tourist service providers.

Hunters - gatherers

In the territory now known as Baja California, the arrival of human beings dates back at least 15,000 years before the discovery of America by Christopher Columbus. (Bendímez, 1999). The groups that arrived and settled in areas with environmental characteristics more conducive to their gathering, hunting and fishing activities began to manage and modify the ecosystems they traveled through. We must recognize that, apart from the differences that geologists and other specialists have recognized between the paleoclimate and the current climates, the elongated shape of the peninsular territory, which ranges from latitude 32° 30' to 22° 50', and the various orographic systems that run through it with heights of up to 3 096 meters above sea level, make a great variety of geographic areas and a surprising diversity in the biota that populate it (Bendímez, 1999).

It is difficult for those of us who today base our existence on the advances of contemporary science and technology to distinguish the part of Baja California's landscapes that may have been inhabited and modified by hunter-gatherers and the way in which that ecosystem shaped them, but there is no doubt that archaeologists and other experts in reviewing the traces of the past have been able to distinguish traces of their intricate relationship with the environment, since, as Paul Claval states, landscapes "speak of the men who shape them and who inhabit them today and of those who preceded them; They inform about the needs and dreams of today and also of a past that is sometimes difficult to date". (Claval, 1999). Thus, several specimens of one of the most conspicuous hunting vestiges of North America, the "Clovis" style projectile points, which have been pointed out as the typical artifact of the hunters of large mammals now extinct, such as mammoths and mastodons, have been found in the highlands of the peninsula. For that reason we have some elements to suppose that life based on the hunting of large mammals was a real alternative, at least in the central part of the peninsula. But there are many other material vestiges, in addition to the testimonies left by European explorers and conquerors who confronted these populations, from which we can infer the millenary existence of an intricate relationship between groups and the environment.

We partially agree with Edmund Leach, when he states that:

The environment is not something natural; it is a series of interrelated perceptions, a product of culture... What this environment is, cannot be discovered objectively; it is a matter of perception. The relationship between a society and its environment is organized in terms of the verbal categories of those who use it. (Kaplan & Manners, 1979)

And we say partially, because we agree that the relationship between a society and its environment is narrated, recognized and taught from verbal and symbolic categories, of course that such categories arise from the interpretations of those who inhabit it, but we do not agree that the environment is not natural, so much so, that it determines to a great extent the way we live, even in the 21st century; the clothes we wear, the food we eat, the type of activities we develop, are determined by the environment; now, if we think of the hunter-gatherers who lived in the era to which we refer in this section, we can think with little room for doubt, that their semi-nomadism based on the search for resources is an example of the articulation of these groups with Nature; In this case, we could undoubtedly think of what Naess and Capra call deep ecology, since the way in which these groups organized resources, the cyclical return to known places in search of food, the herbal knowledge that they later inherited from Jesuits and ranchers, speak of an articulated relationship with the environment.(Cariño et al., 2013)

Our ancient Californians left no evidence that they considered themselves masters of nature, nor did they attempt to transform it for their well-being; on the contrary, everything seems to indicate that they lived in a relationship of harmony and articulation with their environment. Although we agree that the ways in which the environment is categorized and conceptualized tell us much about what the society in question hopes to achieve with respect to its environment, we cannot ignore that the categorizations and conceptualizations of the environment in which the hunter-gatherers lived in our mid-peninsula were not constructed by them, but by the archaeologists, historians and scholars who have analyzed their way of life.

Therefore, we consider that what is understood about this environment will depend not only on the way it is conceived, but also on the objective properties of the environment and the knowledge and techniques that the population constructs and uses to cope with it. In this regard, many historians and anthropologists agree that conceptions of nature are socially constructed and vary according to cultural and historical determinations. Philippe Descola states that the dualistic vision of the universe that prevails in Western cultures between culture and nature often constitutes a serious obstacle to the analysis of the ways in which other people talk about and interact with their environment. (Descola, 2001) This is the case, for example, in the enormous contradiction we find in the Spanish testimonies that speak of the precariousness and hostility of the Californian space and are unanimous in recognizing that the natives were happy, satisfied and attached to their territories, attitudes that have never coincided with a conquering, exploitative and civilizing thought (Descola, 2001).

We believe that it is appropriate to consider the concept of "environment" in this double sense; the environment is both natural and cultural, since it both determines the possibilities of human action and constitutes the product of that action. Furthermore, it is necessary to bear in mind that the hunter-gatherer way of life, like any other human way of life, emphasizes its relationship with different spaces, which are dear to it, which have the cultural imprint stamped onto them through custom and tradition, which are familiar to it insofar as it relates to them, not only to make use of different resources, but also for its social relations and with the supernatural. To support this statement, we'll make use of an example cited in a testimony of the missionary period in Old California, regarding the way in which the Indians gave names to those places important to them, and did not have, on the other hand, the Spanish notion involved in the name "California":

The truth is that the Spaniards did not hear this name from the Californios, because they did not know if the country was big or small; where it began or where it ended, and for them only those regions where each group used to live and make their raids had names, and among these indigenous names there is none called California. (Baegert, 1989)

It should be noted that the conquerors of Old California did not respect the intimate relationship of the indigenous people with their territories of travel, given that in their cultural universe there were other priorities to be considered in and environment that was, from their perspective, extremely hostile,

The fundamental aspects of the environment for the explorers had to do with the possibility of exploiting mineral or pearl resources, while for the religious of the three corporations that came into contact with the natives to evangelize them[2], aspects such as the relationship between the agricultural capacity of a site and the number of natives who frequented it were important, since their objectives, set by the Spanish crown, were to make possible the cultural change of those groups considered "the most savage" so that the territory could be counted as part of the Spanish empire in America.

It is worth mentioning that all the places where missions were founded had an indigenous name, which means that they were places of importance in the imagination of the people who visited and traveled through them. The reason is that those places where the conquerors decided to establish missions had to meet the requirement of having more or less permanent water sources, and the aguajes have been important meeting places for all hunter-gatherer bands in the history of mankind.

In Old California, the permanent water sources were the center from which different roads departed and were traveled and negotiated by related bands or in temporary alliances, so these places may have been in native cultures what Gilberto Giménez calls "geosymbols", that is, cultural constructions that become objects of representation, attachment and belonging. (Giménez, 1996).

Depending on the seasons of the year, and considering the existing rainfall regime throughout the region, the bands would gather in larger groups around the aguajes to harvest and consume various plants, seeds and roots, in addition to sharing the product of their hunts; while when water was scarce, the bands had the possibility of splitting into smaller groups that could face the dry times with greater chances of success.

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[2] The three religious orders that were in charge of founding missions in Antigua or Baja California were: the Society of Jesus, from 1697 to 1767; the Franciscans, from 1768 to 1772 and the Dominicans, from 1773 to 1840.

In late summer and early autumn, if rainfall occurred, great mobility was possible from the interior to the coast and *vice versa* to take advantage of the multiple food resources of the Pacific and Gulf of California coastlines, counting on the temporary water reservoirs formed in the canyons and cliffs. (Ritter, 1998). *In* these terms, although we cannot speak of sustainability, it is possible to argue that the interests of hunter-gatherers were consciously linked to the prudent use of their basic resources, so they developed conservation practices based on simple, common-sense rules that tended to ensure long-term sustenance. Practices that seemed to keep basic resources secure had to be gradually reinforced, and conversely, there had to be a gradual rejection of those practices that seemed to destroy basic resources. (Guha & Gadgil, 1993)

Missionaries, explorers and soldiers

As we saw in previous sections, ecology is the science that studies the relationships between living organisms and their physical and biotic environments. Ecological analysis has given humans a holistic perspective of the planet, since, instead of studying living things in isolation, we have come to understand the intricate relationship between the groups of plants and animals (including humans) that make up the living portion of an ecosystem and are related to each other and to the non-living component of the ecosystem. (Odum, 1959). Since its construction as a scientific discipline, ecology has maintained an evolutionary perspective of the mechanisms of transformation of living beings, with emphasis on the processes of adaptation, i.e., processes of functional adjustment, since every environment in which life develops, from a certain level of organization, includes a social dimension. Culture is a singular adaptive instrument of the human species that has given it the leading role it has played during the *Anthropocene*.

In order to establish the difference that culture introduces in the context of ecological relations, some anthropologists laid the foundations of what they called cultural ecology. Cultural ecology, as we said, is characterized by a special interest in the adaptation of human societies at two levels: the first has to do with the way in which cultural systems adapt to their total environment, and the second - which is a consequence of this first level - with the way in which the institutions of a given culture adapt to those of another. Adjusting the history of what happened in Old California after the implantation of the missionary system to this explanation, we can understand that the hunter-gatherer culture established the basis for its survival in the intimate and millenary relationship that it had sustained with its environment, but could not adapt, in the end, to the institutions designed by the missionaries to settle them permanently in their territories, because, those institutions had not considered the difficulties of operating an agricultural system that would allow the inclusion of the entire indigenous population with such limited water resources. However, the institutions inherited from the missionary era could be successfully adapted, in specific contexts, to give life to the small settlements that replaced the missions when they lost the neophytes that constituted their reason for existence.

The change that took place in the landscapes chosen by the missionaries to found their establishments and that would allow, later on, the flourishing of the ranching population, was directly related to the conception of these spaces as "productive", that is, propitious to carry out a transforming task of great importance in the imaginary of the time. As a Jesuit involved in the process made it clear:

It was therefore logical that the first missionaries, who at first fed themselves with grains and meats that they brought with them from Sonora and Sinaloa, on the other coast of the sea, were anxious to establish agriculture and cattle raising in California in order to be able to support themselves and their successors, but also the soldiers, sailors, sick Californians and catechumens in the future. (Baegert, 1989)

Supported by the missions that the Society of Jesus had on the continental counter-coast, supplied with a certain continuity thanks to the ships that they had, and having a permanent source of financing and not conditioned to the economic retrieval of expenses, the missionaries of Old California could patiently dedicate themselves to explore the land until they found, as they did, the most suitable places for the foundation of their missions. The illusion that they could become self-sufficient did not abandon the religious and the institutions that supported them, because, in addition, the populations that were the fundamental objective of their enterprise were continuously diminishing until there were no more Indians to transform and the soldiers and servants of the missions felt they had the legitimate right to reclaim those lands, the only ones in the peninsula with true productive potential.

If we were only to analyze the result of the entire missionary effort with respect to the evangelization and cultural transformation of the Indians, we could conclude that it was a futile effort. However, we must recognize that the missionary establishments, for the most part, were the seed of the later settlements of the peninsula. A good base of plant and animal species brought by the missionaries to these territories contributed to create new landscapes and to sustain the settlers who little by little decided to stay and try to prosper. Wheat and corn crops, date palms, fruit trees, vines and olive trees, as well as cows, goats and sheep, were the main ingredients of this agricultural landscape, which was built by the inhabitants of the ranches and towns inherited from the extinct missions. From the missionary spaces and operations, the work of conditioning these species had already been done to achieve the growth of orchards and crops that would last long after the end of the religious work. On the other hand, the austerity that had characterized the missionary way of life continued to be a necessity of ranch life. Just as the missionaries and their auxiliaries had been accustomed to stockpiling grains and sun-dried fruits to withstand periods of scarcity, the ranchers learned what the land provided, and to be provident.

It is unlikely that some of the ancient catechumens were able to completely abandon their nomadic life and apply for land to work. Rather, it was the descendants of soldiers and servants who took advantage of the infrastructure that survived the missionary period to begin a new stage in the life of those places. However, not all the knowledge with which the natives had faced the problems of subsistence was lost, since the knowledge about some of the native plants and animals of the region, as well as the appropriate seasons for their collection and consumption became part of the accumulated knowledge shared by the population that inherited those landscapes.

Rancheros

The life of the heirs of the missionary landscape was, undoubtedly, an odyssey just as committed and difficult. They were the ones who continued the agricultural and cattle-raising tradition initiated by the missionaries, but we could also say that they are the continuators of the indigenous tradition of profound knowledge and administration of the possibilities that the environment offers. Cultural ecologists argue that the study of adaptive processes at these two levels allows us to see how different cultural configurations are created, conserved and transformed. Of special interest is the emphasis that can be directed, through this theoretical current, towards factors other than technological and economic ones as operative variables in cultural adaptation. That is, in historical circumstances in which ideological and socio-political factors serve to maintain the traditional adaptation of the community in the face of what it perceives as external threats. In this regard Roy Rappaport has argued that the fact that the laws governing cultural processes are ontologically distinct from those governing the adaptive processes of other animals does not mean that they have functional autonomy:

When we say that cultural processes are governed by their own laws, we do not mean that culture does not play a role in even larger systems, subject to even more general laws; larger systems that include, in addition to human culture bearers, other species and non-living things. (Rapapport, 1993)

Every human adaptive process brings with it the appropriation of one or more ecosystems, with the consequent transformation of their structure and functioning. When we refer to the adaptive responses that both hunter-gatherers and the ranchers who replaced them in the Baja California peninsula created throughout their millenary experience, in the former, and centenary, in the latter, to respond to environmental demands and obtain sustenance from their environment, it is necessary to point out an aspect that has been misunderstood: the fact of considering that these societies, due to the simplicity of their technological development, do not represent any form of alteration of the ecosystems they inhabit. We know that, to a greater or lesser extent, all ecosystems inhabited by human beings suffer manipulation and modification, while at the same time constructing and transforming the culture of those who inhabit them.

The different forms of productive organization of human groups have brought with them a specific treatment of nature. Not all historical forms of this organization have been or are what we would today call sustainable. Some remained for many centuries, others failed in their process of adaptation to the limits imposed by the ecosystems, although all have shown more or less significant problems of adaptation, so that today we can affirm that there is no environment on the planet totally alien to the human footprint, and even less any human being who lives without carrying within him, in all his Being, Nature and in his culture the guidelines of the ecosystems he has inhabited.

Cariño and his research group comment on how little by little a lay population was established in Baja California Sur that took on the task of introducing agriculture and cattle raising in these lands, and it is worth mentioning that the original objective of the ranches created by this meager population was to supply food to the missions and mining centers. (Cariño et al., 2013)

In a way that was probably imperceptible to them, they were building a culture of exploitation of the resources provided by the biotic diversity of the environment, i.e., although, of course, they significantly modified the ecosystem with their presence. (Cariño et al., 2013) In other words, although, of course, they significantly modified the ecosystem with their presence and the introduction of animals and plants, the environment was also imposing its own rules in the encounter with the new settlers who founded the Sudcalifornian society by forming the first rooted families.

Paradise sellers and service providers

Sotolongo and Delgado (2006) state that the environmental complexities in Latin America are linked to the evolution of human cultures in the territory and to the context of domination imposed since European colonization. Undoubtedly, the transition from hunter-gatherer societies to agriculture altered energy flows and ecosystems, but the environmental problem we know today is the result of transformation processes linked to the symbolic and material development of capitalism, which in the Americas has had one of its most ruthless faces. The historical process of colonization and conquest laid the foundations for dependence and the accelerated deterioration of ecosystems in Latin American societies; Mexico and BCS are no exceptions.

The hunter-gatherers who roamed these lands did not develop agriculture because they did not know how to take advantage of the wetlands that the missionaries later turned into oases through the canalization of water and the introduction of fertile soil (Cariño et al., 2013). But we cannot ignore the fact that the hostile conditions they encountered also modified their culture and their way of seeing the world. With the ranches came commerce, the populations grew at a very slow pace at times, others at a more accelerated pace, giving way to the construction of small commercial cities such as La Paz and San José del Cabo.

With the advent of the *Porfiriato*, the extraction of minerals had an upturn that almost turned the mining towns into the centers of economic life, but this upturn would not last, the minerals were depleted and the foreign companies that exploited them simply left or became considerably smaller, Some sought autonomy in the installation of new ranches, as in the case of those who settled on the San Antonio - Los Planes road, others opted for a definitive migration to other productive centers of the country.

The territory of BCS was able to live more than half a century of relative demographic stability and little capitalist development, except for its status as a free zone, but the creation of the *ejido* and the opening of two important agricultural centers: Valle de Santo Domingo and Valle de Los Planes, in addition to the construction of the transpeninsular highway, changed the dynamics of growth, once again significantly modifying the ecosystems of Southern California.

Until the middle of the 20th century, the apparent geographic isolation of our half peninsula made it appear as a place far from the center of the country, with weak communication possibilities and, therefore, unattractive for migrants. Job sources were scarce, in addition, investment possibilities were hindered due to the poor infrastructure and insufficient natural resources that a semi-desert area such as ours can provide. The fertile lands of the Santo Domingo Valley, the quintessential agricultural zone in BCS during the period from approximately 1950 to 1980[3], had not had access to the technological advances necessary for land exploitation, nor did they have the necessary labor to start up an agricultural project in that area. The mines of Santa Rosalía, which were exploited by the French company "El Boleo" were practically depleted, as were those of San Antonio and El Triunfo; fishing was only a family activity and for internal consumption[4].

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[3] The Santo Domingo Valley ceased to have the economic importance it had in the state, due to the exhaustion of the land, the depletion of the wells and the economic crises that the country has faced since the end of the Echeverría administration (1976) to date (2014).

[4] "Economic Structure of the State of BCS". National Accounts System INEGI - SPP. Mexico, 1987, page 4.

Of course, BCS has never been an autonomous entity, it is part of our country and as such has been affected by central decisions. At the beginning of the seventies of the last century, with the appointment of Felix Agramont Cota as governor of the then territory, some agencies were created to create the conditions required to bring BCS closer to the rest of the country through communications and finally turn it into another state of the federation. These political decisions have also affected the environment and have contributed significantly to the evolution of our ecosystems. It was in those years that the construction of the transpeninsular highway, begun in 1931, was concluded; the ferry service and port works were also completed; the development of the telephone system, post and telegraphs, airports and irrigation infrastructure began. These changes aimed at the technological modernization of the entity were decisive for the economic impulse to attract capital and population. At that time, the issue of environmental damage did not seem to be a priority in Sudcalifornia.

The urban population increased considerably and emigration was reduced, the number of Sudcalifornians living outside the state dropped to 13%. In addition, immigration also grew considerably during this period (CONAPO, INEGI). The number of births increased, and mortality decreased. By 1970 there were 128,019 inhabitants and the percentage of urban population grew from 36.3% in 1960 to 54% in the first five years of that decade. In this way, both the demographic and economic conditions were achieved for the transformation of the territory into another state of the federation. Since then, BCS would be transformed into one more piece of the national and international capitalist project, because, although officially the Mexican state continued to be the guarantor, the neoliberal creature we have today was already being gestated in the womb of the system.

The increase in population and governmental measures resulted in a significant economic rebound for the state, opening sources of employment, mainly related to commerce and tourism. Although there have been important attempts to industrialize the state, it has been, at best, a good intention that has failed to crystallize mainly due to the lack of local production of supplies and the geographic isolation of the state in relation to the rest of the Republic. Trade, on the other hand, had several years of boom in the state thanks to its status as a free zone.

But the boom would not last forever, because in addition to governmental decisions that usually affect important groups of the population, nature is not inert, it is not unprotected or at the service of human beings; sooner or later it recovers its course and takes its toll. During the second half of the 1980s, the Santo Domingo Valley, which for more than 30 years occupied a privileged place in the state's GDP, began to decline due to the weakening of the land, the lack of credit support from the banks and the depleting of the irrigation wells. Since then, the farmers of the Santo Domingo Valley have ventured into different productive activities to maintain their standard of living: shrimp farms, ostrich breeding, citriculture and others; apparently the latter has been very successful, but the farmers are not "singing victory" because neither the soils nor the water are very promising in the area (Rubén González 22/08/2020).

The neoliberal project, born during the presidential period of Miguel de la Madrid and consolidated through subsequent governments, has also had an impact on BCS, especially since the Free Trade Agreement came into effect; the influx of foreign tourism grew slowly at first and then at an ever-increasing rate. Likewise, during the first five years of the 1980s, U.S. migration changed the landscape for cities and towns of Baja California.

The devaluation of the peso in 1983 increased the value of dollars and dealt a low blow to local commerce. At the same time, foreign migration was encouraged, mainly from the United States, who found in these lands an opportunity to improve their quality of life; it was easy to buy houses and land at an affordable price in a place where Nature seemed less touched by human hands. But these new settlers have also modified the environment. In the Todos Santos area, for example, they bought large tracts of land from families who had date and mango orchards in the region. They changed the construction materials: concrete replaced palm leaves on roofs, flowers, strawberries and citrus fruits for commerce replaced mango trees in some cases, in others, these were replaced by swimming pools, tennis courts and large buildings.

Since 1994, the U.S. press and television, as well as the Internet, have been presenting this region as a possibility for those who want to change their lives for whatever reason. Many Mexicans from the interior of the country have also seen in foreign migration and the influx of tourists a possibility to improve their standard of living and way of life by setting up businesses or renting their labor force to immigrants in this region.

Currently, it is possible to locate on Google Earth the best land for sale in the mid-peninsula, located very close to the beaches or with an ocean view from the mountains[5]. The result is that foreigners have been gaining ground over coastal fishermen in places like El Sargento and La Ventana. Little by little the smell of dollars has convinced them to change their economic activity to sport fishing.

This international migratory process has continued to grow in the state and has opened up possibilities for the installation of extractive industries such as Los Cardones, which was trying to extract gold in the Sierra de la Laguna area. The issue and the concern of the environmentalists is legitimate: among the arguments they present is the contamination of the water by cyanide, the impact on the organic agriculture production in the area, the possible decrease in tourism due to the contamination produced by this type of extraction, and also the risk that the U.S. Food and Drug Administration will close its borders to organic products grown in the area.

Given the geo-ecological and cultural conditions of the mid-peninsula, the last state governments have bet on tourism as an attractor of resources and jobs to Baja California Sur; everything indicated that the so-called "industry without chimneys" would be the ideal economic solution for our state, but, apparently the Covid-19 pandemic casts doubt on the effectiveness of this solution, as the virus arrived by plane to Cabo San Lucas in the body of an English tourist.

As we said, the arguments are valid and legitimate, but they are anchored in what Naess called superficial ecology, that is, if we analyze the protest demonstrations against toxic mining, or if we talk about the health, social, economic and psychological ravages of the SARS-CoV-2 virus, we see the human being rather than Nature itself at the center of concerns. Obtaining a gram of gold requires the removal of tons of soil, as well as the extraction and disposal of other metals. In other words, what happens to the ecosystem when faced with an aggression of this nature? We believe it is important to consider that we humans are not the only living beings affected on the planet, nor the most important ones, with license to depredate, erode and mistreat the ecosystem if science finds a way that this does not affect our species. It is necessary to understand that this does not exist: "what is bad for the sparrow, is bad for humans".

Final comment

Finally, it seems important to comment that BCS continues to be one of the least polluted regions in the country; however, environmental movements and incomplete information in the media have generated the social construction of fear around the environmental problem. In a meeting with a heterogeneous focus group, we were able to confirm that the information we have on the subject is scattered and incomplete.

Among the main concerns, one can observe, for example, the weight of nostalgia for past days in the regionalist sentiment of some members of old Sudcalifornian families: "I am particularly concerned that we have stopped using rural wind energy; before we used to see small windmills, very precarious; now they have been retiring them; perhaps because we did not see a tangible functional impact". (21/03/2021). Undoubtedly, one of the central concerns is the water problem, but we found out that people consider, rightly so, that environmental problems in other places such as river pollution, illegal logging or slash and burn procedures in the forests, affect us directly in BCS; and we say that this is an accurate assertion because the environmental problem is global and BCS is not left out of global issues, but it is also true, as another participant mentioned that: "In this state there is no river pollution, because we don't have any. But the groundwater tables can be contaminated. The soil is fertile, but without water it cannot be used" (21/03/2021).

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[5] As in the case of the El Ancón ranch.

But undoubtedly the most current concern revolves around the aforementioned issue of toxic open-pit mining and the existence of the virus:

Well, what should concern us as Sudcalifornians in the short term is that no more open-pit mines or so-called toxic mines are installed, because there is already many operating. The water is being contaminated with arsenic, which in tests on inhabitants of high risk areas such as San Antonio and El Triunfo, La Ventana, El Sargento, Los Planes, already have high levels of metals in their blood and body (03/21/2021).

A social concern that adds to those mentioned is the establishment of tourist centers, which break with the tranquility that for so many years characterized BCS, before the conversion of the territory into a state, as it brought the aforementioned migrations and a kind of ideological and moral contamination through the mass media.

And the large-scale tourist developments that have been destroying the ecosystems, flora and marine fauna. There we have the case of the housing zone of El Mogote, failed and a few years away from the buildings falling down for abusing nature, not to mention Cabo Pulmo, Todos Santos, Balandra in La Paz and the north of the state that will begin to suffer. And let's not even talk about television and so many other things that are there now, that bring people to think about nonsense, instead of doing what they have to do (03/21/2021).

The passing of the years, the increasingly accelerated arrival of migrants and with them the so-called post-modernity have significantly transformed the environment of Sudcalifornia; all of us who inhabit this half peninsula today are witnesses of how the urban sprawl is modifying the environment, globalization has transformed the ways of life, the extractive industry threatens us irremediably and, to top it all, there is the invisible but lethal enemy that keeps us barricaded in our homes, terrified by its presence and distrustful of the solution that the vaccine could represent. We believe that the solution is in the hands of all, governments and citizens, since the infodemic, that evil that fills us with false news and half-truths, does not help in the construction of certainties, in that sense we consider that citizens can continue to fight, each one from their trench, for the welfare of Nature, which will be, undoubtedly, that of us as part of it.

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Chapter 5 Interactions of the digital creative city with the engines of the development of Guadalajara and the fulfillment of its goals

Capítulo 5 Interacciones de la ciudad creativa digital con los motores del desarrollo de Guadalajara y el cumplimiento de sus metas

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Abstract

In this work, the Digital Creative City (CCD) project represented the opportunity to learn about the plans and actions of a modern city, its population, its activities and customs; the prerogatives that its inhabitants have as a fundamental right to income for their work, education, culture and mobility, within a healthy environment that gives them well-being and quality of life through technological impulse. The area of greatest interest is the economic benefit that an innovative project in a thriving city and the use of technology can bring to the people at a time when health and economic problems have undermined their stability.The polygon where it is located is a site of great social and historical value in the tradition of the Guadalajara of yesteryear, which has been invaded by the neglect of authorities and neighbors, the lack of cleanliness, crime and vandalism, there is also a great barrier between the benefits that can be achieved and what the population perceives; the plan represents a great change and an economic challenge of the western zone of Mexico. In this there are great opportunities for women entrepreneurs, who being curious and inquisitive, we believe that categorizing the benefits of the digital creative city (CCD) of the Metropolitan Zone of Guadalajara (ZMG) based on the Economic, Social, Cultural and Environmental Rights (ESCR) can turn expectations into reality. Therefore, it is the people and the environment that are considered in this project, which have a special impact on these ESCR, based on the American Convention on Human Rights (ACHR) and the International Covenant on Economic, Social and Cultural Rights (ICESCR), as well as the Additional Protocol to the American Convention on Human Rights in the Area of Economic, Social and Cultural Rights, "Protocol of San Salvador". With the support of a series of surveys, a series of studies is analyzed, synthesized and proposed with the support of Dyane, of which this one represents a first part.

Smart Cities, Economic, Social, Cultural and Environmental Rights (ESCR), Sustainability

Resumen

En este trabajo, el proyecto Ciudad Creativa Digital (CCD) representó la oportunidad de conocer los planes y acciones de una ciudad moderna, su población, sus actividades y costumbres; las prerrogativas que tienen sus habitantes como derecho fundamental a los ingresos por su trabajo, educación, cultura y movilidad, dentro de un ambiente sano que les brinde bienestar y calidad de vida a través del impulso tecnológico. El área de mayor interés es el beneficio económico que un proyecto innovador en una ciudad pujante y el uso de la tecnología puede aportar a sus habitantes en un momento en que los problemas sanitarios y económicos han minado su estabilidad. El polígono donde se ubica es un sitio de gran valor social e histórico en la tradición de la Guadalajara de antaño, el cual ha sido invadido por el descuido de autoridades y vecinos, la falta de limpieza, la delincuencia y el vandalismo, además existe una gran barrera entre los beneficios que se pueden lograr y lo que la población percibe; el plan representa un gran cambio y un reto económico de la zona poniente de México. En esto hay grandes oportunidades para las mujeres emprendedoras, que al ser curiosas e inquisitivas, creemos que categorizar los beneficios de la ciudad creativa digital (CCD) de la Zona Metropolitana de Guadalajara (ZMG) con base en los Derechos Económicos, Sociales, Culturales y Ambientales (DESC) puede convertir las expectativas en realidad. Por lo tanto, son las personas y el medio ambiente los que se consideran en este proyecto, que tienen un impacto especial en estos DESC, basados en la Convención Americana de Derechos Humanos (CADH) y el Pacto Internacional de Derechos Económicos, Sociales y Culturales (PIDESC), así como el Protocolo Adicional a la Convención Americana sobre Derechos Humanos en Materia de Derechos Económicos, Sociales y Culturales, "Protocolo de San Salvador". Con el apoyo de una serie de encuestas, se analizan, sintetizan y proponen una serie de estudios con el apoyo de Dyane, de los cuales este representa una primera parte.

Ciudades inteligentes, Derechos Económicos, Sociales, Culturales y Ambientales (DESC), Sostenibilidad

Introduction

The aim is to analyze the bases and foundations of the CCD in Guadalajara, to identify the benefits it has brought to fulfill the DESCA, and to be able to distinguish the successes that have permeated the 2020 to citizens, or may be observed in the following phases of the project. With this, we will address the proposal: what is the most significant result of the development of the CCD in the ZMG, fulfilling the ESCR in favor of the urban and even the rural population? Will it be or is it being sustainable based on the current requirements, guaranteeing the respect for human rights articulated through the ESCR?

Similarly, it is considered that in harmony with the position of the Forum of Experts on Corporate Social Responsibility, when it indicates that public authorities can adopt a positive and active position supporting the responsible development of companies so that in the coming years and in accordance with the sensitivity and demand of citizens, companies adopt a responsible management in their own area and involving their suppliers and subcontractors, being important a regulatory framework that contemplates the "social and environmental nature, such as the creation of stable and quality employment, the hiring of people with special difficulties of labor insertion, the requirements of accessibility and design for all or the environmental commitments of companies as well as establishing the lines of collaboration and communication with consumers and users". (Observatoriorsc, 2013 and Reyes et al, 2020)

The perception that new cities are more than agglomerations of people comes from their historical context itself; Castelss in Peniche and Romero (2014) states that the city of globality is determined by information technology and its various networks executed locally, and these, state that the new urbanization constitutes a process of permanent concentration of people and diversification of activities.

Functionally they are, according to Hall (2010), multisectoral regions where, in addition to manufacturing, agricultural, financial and service activities, high-tech nodes, financial services, university systems, among others, are distributed. They are connected to each other and are considered an urban system functionally interrelated by means of economic activities that coincide and are also differentiated by their own technological and resource particularities. (Sassen, 1999).

Globalization has driven the implementation of strategies to guarantee the maximization of the results of its economic operations, defining in a different way the rearrangements of hemispheric, sectorial and local structures, according to investment, accumulation and technological development programs. All this due to transnational trends and flows of large capital, impacting the social order of communities of entire nations (Peniche Camps & Romero Morett, 2014, p. 58).

Background and analysis of the project

The concept with which the Digital Creative City is created is closely linked to the incorporation of technology by the economic agents included in the society in question, as well as the strategic use of available information. This urban model has become popular in the last decade, at the beginning as a pilot project, on the fly, it has achieved almost full implementation in developed cities, since the social conditions demanded to be a sustainable idea have been acquired.

In the ZMG, the project seeks to renew the city's environment to create a modern and connected community where creativity generates applicable knowledge and drives technological development, with the sole purpose of improving the quality of life of its habitants (Guadalajara Ciudad Creativa Digital, 2012), with the income that guarantees their economic stability, allows improving the urban mobility of citizens and puts the environment in its right value, are rights to which we should all have access.

The project itself, envisions the reactivation and regeneration of the Historic Center of Guadalajara, according to the web portal (Ciudad Creativa Digital, 2018) seeks to: "promote urban renewal, harmonious and orderly development, modernize infrastructure and services, habitability, new housing developments, promote non-motorized mobility, preservation, recovery and use of the built heritage, raise a new model of intelligent urban development replicable not only for Mexico but for all Latin America". The project covers an area of 43 hectares within the historic center of Guadalajara.

The CCD is mainly aimed at companies in the film sector, video games, animation, advertising production, multimedia, e-commerce, e-learning, among others; its focal point is the generation of an ideal geographic space for creative industries, with world-class infrastructure, under a required work environment but aimed at all types of industries, including the local one, where it is intended to enhance entrepreneurship and position it to be competitive (Ciudad Creativa Digital, 2018).

The CCD project considered as a public policy model, has an important participation of the government in which great opportunities for economic development are provided to both the city and the country. Managing urban growth appropriately is an unpredictable factor for the sustainable development of everyone on the planet. According to a current UN report, by the 1950s, the urban population registered 751 million inhabitants; currently the figure increased exponentially to 4.2 billion, (for every 100 people living in the world, 55 inhabit cities); by 2050, that percentage will increase to 68 percent. (UN, 2018) and (Gómez, 2020).

In this sense, INEGI (2020) points out that the urban population has been increasing and according to the population census of the year in which the Covid-19 pandemic hit all latitudes, it registers 71 percent of the population, while the rural population is 21 percent in rural areas, noting that the Institute considers that a locality is rural from 2,500 inhabitants downwards and from there upwards it is urban.

This increase will occur in India, China and Nigeria and according to John Wilmoth, director of the Population Division of the UN Department of Economic and Social Affairs (DESA), the preference to live in the city and population growth are driving factors that increase the urban population (United Nations Organization, 2018). The 2014 report notes, the increase of "megacities" from 10 in 1990 to 28 in 2014, led by the city of Tokyo with 38 million (United Nations Organization, 2018a). Despite predicting that some cities will grow more than others, especially in low- and middle-income countries, it is important to consider that some cities will also suffer from the reduction of their inhabitants, as stated by Lina Bassarsky, population affairs officer.

The increase in urbanization, which takes into account economic, social and environmental development, refers to the importance of governments paying attention to satisfying basic needs such as housing, transportation, energy, education, health and employment services, and undertaking policies to improve the quality of life of both city dwellers and rural areas within a framework of inclusion; considers Bassarsky that the reports issued by the UN, as well as the New Urban Agenda, are essential and useful tools, on the challenges and opportunities for urban growth in the context of sustainable development (United Nations Organization, 2018a).

The urban issue has great relevance, it is a novel phenomenon are characterized by the speed and proportion in which international relations, especially in an economic way, are strong and accelerated, witnesses of the process of capitalist accumulation in the current conditions. Despite the fact that urbanization processes represent a social and economic practice of the present day, according to the author of the book "Guadalajara, in search of a better city to live fully", the concept of sustainability theory as a premise for development is relatively recent and has not been fully assimilated (Peniche Camps & Romero Morett, 2014).

Elementary in the history of mankind is the destruction of the natural environment and ecosystems for the conformation of the urbanization process, and the alteration of ecosystems, consideration under the analysis of urbanization processes and the issue of sustainability. Marx (considered in Peniche and Romero, 2014) mentions three elements for the closest conception of the current sustainability issue: the origin of the ecological problem, the alignment of nature and capitalist relations of production, and the conversion of natural resources into commodities.

Cities face new environmental, economic, demographic, political and cultural problems; globalization has given way to new urbanization processes and a different geopolitical and territorial reordering process, as referred to by the Brundtland Commission (mentioned in Peniche and Romero, 2014), empowering the strongest cities to exploit the environmental capital of other nations, leading vulnerable countries to neglect real strategies to sustain their ecologies.

The economic base of cities has been configured from the selection of spaces for the location of various phases of the productive process, placing them as strategic sites that give rise to the metropolization or concentration in part, of an articulated space of the population production and command of the production process, wealth and technological innovation (cited in Medina, Blanco and San Cristóbal, 2012: 74).

The results of the conference on the environment in the city of Rio de Janeiro 2012 (UNCSD cited in Peniche and Romero), on the guidelines for strategies on sustainability in cities point out the scope of cities in the promotion of pro-environmental, social and economically sustainable societies through the approach of an integral planning and administration. Hence the importance of the study on urban development and human settlements that provide decent housing and infrastructure, as well as the approach to the problem of slums and urban regeneration, among others (Peniche and Romero, 2012).

Conceive the model of a new city where the old dichotomy between city and countryside does not fit, but is perceived as a contiguous one in the context of urban reality. Whether it corresponds to a small, medium or large city, urban sustainability cannot be reduced to a system of a city (cited in Peniche and Romero, Negrete, 1995; Abdalla, 1996; Balbo, 2002). It is that which is characterized by providing productivity, infrastructure development, quality of life, equity and social inclusion and environmental sustainability, seeking more efficient energy sources, as well as natural resources that generate creative solutions with respect to environmental quality.

The global strategic location of the ZMG is what has given competitiveness to the maquiladora sector, besides being part of the productive chain of leading companies, in the integration of this great metropolis, according to Berley and Means (1932, cited in Peniche and Romero 2014, p. 76) is what they call "the race to the bottom", that is, attracting foreign investment through exports, and procuring the development of global industry also allowing the entry of companies with high social and ecological impact. The core of the study is shown in the following image.

Figure 5.1 City of Guadalajara and the CCD
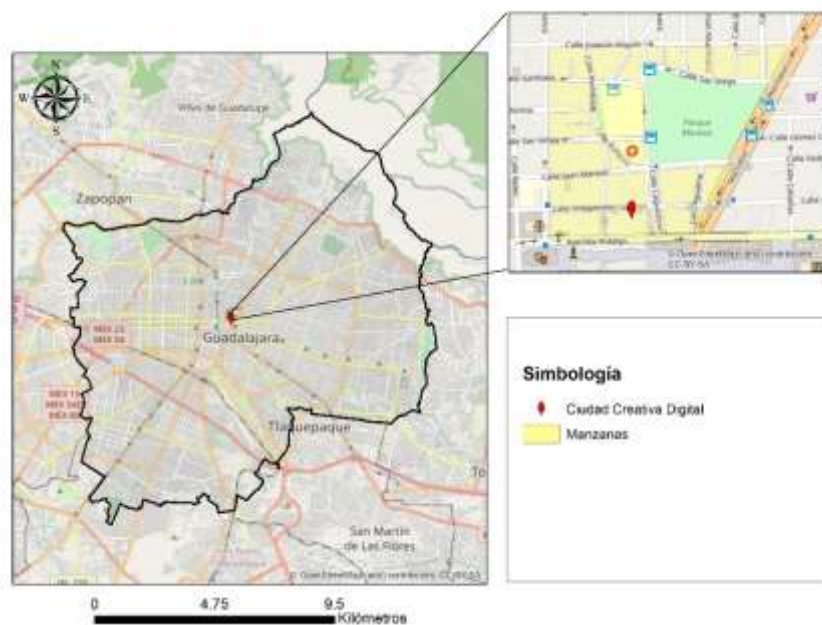
Source: Own elaboration based on the National Geostatistical Framework 2020, INEGI

At the end of November 2020, the total number of companies established in downtown Guadalajara amounted to 6,436 companies.

Table 5.1 Companies in downtown Guadalajara

Activity	2018	2020
(43) Wholesale trade	245	305
(46) Retail trade	2,246	3,542
(72) Accommodation services	527	54
Total	3,018	3,901

Source: DENUE (2014)

Of the 305 wholesale trade units, electrical equipment and material, perfumery and cosmetics, jewelry and gifts, as well as clothing, jewelry and clothing accessories predominate. In the case of the 3,542 retail trade units, clothing, telephones and other communication devices, costume jewelry and clothing accessories, as well as jewelry and watches stand out. It decreases the number of companies destined to the lodging service, with respect to the information presented in the 2018 sampling.

The information found in the DENUE yields a total of 2,201 businesses in Downtown Guadalajara that were discharged in 2018, 2019 and 2020. Of these companies, 46 were discharged in 2018 which yields that the majority are discharges of ATMs in the area, which does not represent anything in our research. In 2019, 2,048 companies were registered, of which 12 companies correspond to graphic design, exhibition of films and other audiovisual materials, and computer systems design services and related services. In 2020, 107 companies were registered, of which none corresponded to the aforementioned lines of business.

In the information of the last registry in 2020, the lines of business with the highest representation are the following:

Table 5.2 Line of Business/Activity

Number of Businesses	Business/Activity
361	Retail trade of clothing, except for baby and lingerie
260	Retail sale of telephones and other communication devices
246	Retail trade of costume jewelry and clothing accessories
191	Retail trade of sporting goods and sporting equipment
185	Retail sale of watches and jewelry
156	Retail sale of footwear
150	Printing of continuous forms and other printed matter
148	Restaurants with tacos and cake service
145	Retail sale of fresh fruit and vegetables
141	Retail sale of leather and fur clothing and other articles made of these materials
132	Retail sale of perfumery and cosmetics
131	Restaurants serving a la carte food or set meals
126	Retail trade in grocery stores, groceries and miscellaneous stores

Source: INEGI. DENUE

The 6,436 companies by employed personnel are represented as follows:

Table 5.3 Employed personnel by company

Number Of Businesses	Employed Personnel
5,303	0 a 5 persons
630	6 a 10 persons
334	11 a 30 persons
66	31 a 50 persons
62	51 a 100 persons
24	101 a 250 persons
17	251 and more persons

Source: https://www.inegi.org.mx/app/descarga/?ti=6

Description

In the field of business, technology, according to Arechavala (2014), can be conceived as a fertile space in which to find tools of outstanding and innovative value to develop or employ technologies in a novel way and obtain benefits, where technology, the knowledge of the entrepreneur that projects an "inexhaustible" field of opportunities come into play. The difference between technology-based enterprises (TBEs) and traditional ones lies in technology as a vital resource, the basis is knowledge (its main asset: to generate, acquire and use it productively and profitably) and what is around it (p. 67).

The business models that entrepreneurs develop, Arechavala (2014) considers, include the expression of the entrepreneurial culture that exists in an economic community, guided by the stance and the effort to obtain wealth, an innovative project allows identifying points in which technology plays an elemental role, and the entrepreneur identifies and exploits opportunities from decisions at three levels: that of economic value, operational structure and strategy; in this one, the way to interact is defined, generating alliances with other organizations essential for its survival and growth. (p. 39)

In companies, innovation and technological development are important variables that impact the general level of competitiveness and better opportunities (Arechavala, 2014), researchers on the subject refer to a characteristic phenomenon in emerging economies such as Mexico on the international trend in the emergence of technological companies capable of discovering opportunities and market niches from it (Becerra, Serna and Naranjo, 2013; Bruton, Dess and Janney, 2007; Bruton and Rubanik, 1997; Dutrénit, Vera-Cruz and Arias Navarro, 2003; Lau and Bruton, 2011, cited in Arechavala, 2014).

Innovate is the way companies use to generate and participate in the networks that carry and make viable their inclusion in public and university research and technological support centers, business bodies, government agencies, non-governmental organizations, among which technology is fundamental, and translate into a source of innovation opportunities that enable new forms and degrees of control in the respective supply chains (cited in Arechavala, Mason and Leek, 2008).

To differentiate a more dynamic economy from a traditional one, it is necessary to start by understanding the decision-making processes and the criteria applied, the generation of high-level jobs, the markets served, and the entrepreneurial mentality. According to Arechavala (2014, p. 71), in emerging economies the networks and resources available to the economic sector is different, technology and access to research and technological development is less developed than in industrialized economies, they are "emerging niches in global supply chains", with geographical proximity or collective competitiveness and learning, with interaction and collaboration, innovation or synergies.

Opportunities arise from the configuration of the social and economic conditions of the country or region, with the generation of companies that have a distinct profile that resorts to knowledge and competitive research based on their technological capabilities through the promotion of industrial clusters and business groupings, which addresses structural problems by sector and with incentives towards entrepreneurs to collaborate with each other (Arechavala, 2014: p. 100). Regional governments are competent in the promotion of innovation agendas and strategies, which generate business opportunities, technology product and build ecosystems and increase productivity, and survive.

Development

Technology and advances in the use of digital information include modifying the way of living in an urban environment, as well as its customs, the planning of activities in a city, and the management of information of the citizens who live there (Guzman, 2011). The dispersion of economic activities and the degree of economic functionality is the same in developed countries, regardless of their size. Cities with better conditions of centrality, accessibility, economic diversity, better skilled labor and the environment of innovation and cooperation, will be where employment is found and urban centers and their metropolitan hierarchies will be located (cited in Medina, Chica and Marmolejo, 2014: 46). The web portal Ciudad Creativa Digital®, Ciudad Creativa "is the renewal of an urban environment to consolidate a space for people, a modern and interconnected scenario where talent and creativity generate knowledge, boost the use of new technologies and improve the quality of life in the Metropolitan Area" (Ciudad Creativa Digital, 2018).

In the portal Béjar Ciudad Digital: "a digital city is an advanced model of community, where new ways of relating to the environment and between social agents through new technologies become a reality". (Bejar Ciudad Digital, 2018)

From the informatics point of view, it refers to the concentration of entities that in their activities in the metropolis lie in: managing, processing and storing information, given the characteristic conditions of the urban agglomeration that allows performing the tasks and incorporating them as part of their daily activities with the objective of taking advantage of digital technology to improve the effectiveness of the inhabitants that inhabit it and its participants (Guzman, 2011); and the boost to media and entertainment industries due to the economic spillover that they generate worldwide.

Relations with the environment make possible the incorporation of projects in the city, in areas such as education, favoring aspects related to the DESCA and providing solutions to the different social problems with recreational and sports practices for children and young people; in which the recovery of public spaces intended for this purpose is a priority as in the case of the Sports Initiation Schools (EID) program in Bucaramanga in the northern part of Colombia, which improved the quality of life and development (Bautista & Quintero, 2021).

Mexico is one of the main markets in the Latin American region for software design and video game development, it is the most competitive country, the contents created by its television stations have influence in more than 100 countries, it is a hotbed of talent in information technologies; its business opportunities, the generation of well-paid jobs and the concern demanded by the youth to improve living conditions in combination with a competitive outlook, its number of graduates and students in the audiovisual creative sector, together with macroeconomic conditions, infrastructure, natural and historical environment, its support programs, the competitiveness of the country's creative and technological sector, make it more attractive (Ciudad Creativa Digital, 2018).

The CCD represents a geographic space where institutions, companies and the urban sector converge in order to conceive innovation in the ZMG as a strategic axis of connection and use of material, economic, and technological resources, which arises in 2010 with the federal government initiative called Ciudad Creativa Digital, a project based mainly on a prototype of a smart city led by the Ministry of Economy and Proméxico in cooperation with the Massachusetts Institute of Technology (MIT), whose headquarters is chosen for the availability of land, its historical heritage, the required infrastructure, by the creative industries; and Guadalajara, proposing the heart of the city, the Morelos Park area was selected.

The Master Plan was presented in November 2012 by the governor-elect, Jorge Aristoteles Sandoval, who with the initial start-up amount, the attraction of investments, the generation of jobs, the creation of the Trust for said project, and in broad strokes, said what the CCD consisted of (Ramírez, 2012). Six years later, the successor, giving continuity to the Plan, relaunched the project with the creation of a Decentralized Public Organization (OPD) commissioned for the promotion, administration and operation of the project, called Agency for the Development of Creative and Digital Industries of Jalisco. Its purpose is focused on promoting the digital industry and related creative production on the fringes of the urban ecosystem.

It was in February 2019 that its creation as OPD was published in the Official Gazette, with legal personality and its own assets, it appears as a strategic plan of the government; the legal framework, mission, institutional vision and alignment to the State Plan, institutional objectives, alignment of budgetary programs to institutional objectives and aspects of the project, are found in the Institutional Plan of the CCD, in the Digital Library of the portal of the Government of Jalisco (Agency for the Development of Creative and Digital Industries of the state of Jalisco, 2019).

The CCD with the adoption of technology by the economic agents included in the society in question has acquired the social conditions demanded to be able to be a sustainable idea. The general perspective lies in its application, it is explained as the optimal use of energy resources, improving urban mobility, maximum efficiency in educational and health systems; premises included in the project of every nation as a pillar of competitive economic growth at a global and digitized level.

In its objectives, the UN in terms of sustainable development for the Global Agenda 2030, raises what Guadalajara began to do with the implementation of pilot projects since 2013, for the eradication of poverty, actions for the climate, life of terrestrial ecosystems and construction of alliances to achieve the objectives, forming the bases of experience and knowledge necessary in technology to achieve the best decision making in that field of globalizing strategies (Mayors of Mexico, 2019). The city will learn from other ongoing projects and will serve as an example for Mexican cities seeking to be part of the digitized economy.

As an organized society, it seeks to achieve the promotion of culture and creativity in technological innovation issues necessary to link with the different economic sectors of the capital city, such as the government sector, private sector and civil society. Then, it will seek to boost digital creative growth in the rest of the country. Playing the role of a pilot city to create a modern and connected community where creativity generates applicable knowledge and drives technological development, with the sole purpose of improving the quality of life in the ZMG (Guadalajara Ciudad Creativa Digital, 2012). It will begin by housing creative industries such as film, television, video games, digital animation, interactive media, and mobile applications; with this, it is intended to place Jalisco as the leader in technological production at the national level, an attractive sector due to its high level of globalization in an economy open to the world.

Since its conception, CCD was designed as an ecosystem, as a place to create and share knowledge and opportunities for high impact development in productive, social and cultural issues. That is why it is located in the heart of the Historic Center of Guadalajara, one of the most beautiful and emblematic cities in Mexico, in the surroundings of the traditional Parque Morelos, with the conviction of generating new opportunities and recovering the quality of neighborhood life in this important area for the community of Guadalajara (Guadalajara Ciudad Creativa Digital, 2012).

In this way, CCD is positioned as a global node in audiovisual, digital and interactive production, both for the world and Hispanic markets, which guarantees the materialization of a sustainable, productive and innovative world-class integrating model. Soplapuco, et al. (2021) cite the Ministry of Education (2014), Zorrilla (2013) and Ivancevich (1997) who refer to promote youth development within a sustainable development model that protects and takes advantage of the biodiversity of the environment in the hegemonic development of society undertaken and managed with quality with inclusion in a collaborative manner for the progress of all within an ethical code that is practiced for the common good. The Digital Creative City development plan is designed to serve as a catalyst for innovative ideas in one of the fastest growing productive and economic sectors in the world: the creative industry. The plan is oriented towards two main strategic lines. The first consists of strengthening the digital creative industry, capable of generating expressions of intellectual property linked to technological innovation; the second consists of establishing a framework for competitiveness and entrepreneurship.

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The first consists of strengthening the digital creative industry, capable of generating expressions of intellectual property linked to technological innovation; the second consists of establishing a framework for competitiveness and entrepreneurship. With mathematical and scientific procedures that involve strategic knowledge, using science and technology to improve the quality of life, to make informed decisions and respond to challenges in various contexts with critical reflection in permanent dialogue with the knowledge of the people.

Artistic expressions that appreciate art in its various forms, with imagination, creativity, sensitivity and aesthetic sense to express their ideas, feelings and emotions with the languages of art, learning with efficiency and perseverance, always evaluating, using resources and strategies appropriate to the context and their possibilities. (Soplapuco et al., 2021: 22 and 23).

The digital HUB[6] is a concrete action that responds to this purpose through an urban infrastructure and connectivity project that will allow the strengthening of business networks and strong profitable links of productive collaboration in all value chains of the creative ecosystem." (Digital Creative City, 2018). In addition, as Sanchez (2020) points out the real and useful approach, applied based on technology, culture and communication that generate own communication channels for digital transformation to bring education to underprivileged populations, as is the case of the Morelos Park area.

The creative industry, which is the target of the project, plays a fundamental role in the implementation of social and educational strategies that include children and young people in society's plans to keep them away from violence and conflicts. According to López and Gómez (2021) to support children in the development of social competencies, prosocial intervention programs are required to favor interpersonal relationships that achieve recognition within the social, historical, cultural, political, economic and ecological construct. In the opinion of Jasso, Jalisco artist and director of Visual Development at Tencent Games, the CCD is important to encourage new generations to create businesses and synergies with the place and its traditions. (Vázquez, 2021)

Strategic axes of the CCD

Within this area, the economy, mobility, infrastructure and environmental sustainability of the project underway are analyzed primarily in the economy, mobility, infrastructure and environmental sustainability of the project. The strategic axes provide us with a better perspective of the future operation of the project, as well as the possible changes and positive and negative effects of the Digital Creative City.

In terms of mobility, greater attention is paid to improving the viability of the city, discouraging the use of automobiles and improving the fluidity of public transportation and the environment for pedestrian travel; urban transportation will be reengineered and routes will be optimized to connect the city in the most efficient way. The construction of a new light rail line and a project to connect citizens to Guadalajara's international airport will be added to this strategic axis as a major part of the project.

The new infrastructure seeks to optimize land use and contribute to the reuse of waste, as well as to care for the environment by avoiding the waste and exploitation of natural resources essential to the city of Guadalajara. Finally, the most important strategic axis, sustainability. The city as an entity that adapts to its environment immediately, that responds in real time to the needs of the community, the activities that take place there and the environmental conditions thanks to a series of sensors and devices linked to the Data Center that have a positive impact on the economy, productivity and sustainability.

CCD has sensors that measure and control the state of green areas, public lighting, security in the area and water supply, among other services. There are a series of digital information kiosks, with relevant and updated data for users and wi-fi services accessible to all users. The urban intervention in CCD is aimed at establishing a mixed-use model, with an adaptable and forward-looking scheme that merges spaces for the creative industry with educational, housing and commercial spaces, with multiple open areas for human and digital interaction (Guadalajara Ciudad Creativa Digital, 2012).

With programs that, through comprehensive pedagogical strategies, seek to contribute to improving educational processes through sports, physical activity, culture and the use of free time, based on extracurricular activities that encourage and help students to improve their quality of life; creating spaces that allow and facilitate physical activity, sports practice and recreation as a fundamental habit of health, improving the quality of life and social relations, linking sports as a possible solution to the various problems affecting children, youth and women in the area with motor, mental and health benefits, through measures that facilitate the activity and sports practice. (Bautista and Quintero, 2021: p.17 and 18).

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[6] Device for centralizing the cabling of a computer network, so that it can be expanded later.

The productive ecosystem in the electronics sector and digital industry in Mexico and Guadalajara, of privileged location, natural and cultural wealth (Digital Creative City, 2018), actions in support of creative entrepreneurship promoted by the Agency for the Development of Creative and Digital Industries together with the City of Guadalajara and the Government of the State of Jalisco (2020 GDL Impulsa Labs Program to select the best projects in the creative and digital industry, to grant specialized consulting, workshops, mentoring and access to a pool of resources to finance the winners). (Carranza, 2020).

In February 2021, the technological platform "Creativity Hub" emerges, aimed at the incubation and acceleration of projects of individual spaces, collaborative work and boardrooms for advice and consulting, photography, animation and video labs, and spaces for the development of the industry within the CCD. The ZMG shows specialized concentration in the manufacturing of computer equipment, in software editing, in the video film industry together with the Aguascalientes ZM, in financial services with the León, Morelia and Querétaro ZMs; in trademark, patent and franchise rental services (Medina, 2015, p. 118).

The understanding and promotion of development with importance of the territory, understood as the socio-cultural and geographical environment in which, and with which people interact, from the approach that proposes a multidimensional view of progress, which includes human, social and institutional, environmental and economic development; same that has the purpose of addressing the reforms and changes required in the sector to promote quality educational services and relevance to the actors in the various territories of the country to close inequity gaps, in Guadalajara and mainly in the vicinity of Parque Morelos. Soplapuco and others (2021)

It envisions reactivation and regeneration of the Historic Center of Guadalajara (Ciudad Creativa Digital, 2018) seeks to: promote urban renewal, harmonious and orderly development, modernize infrastructure and services, habitability, housing, non-motorized mobility, preservation, recovery and use of built heritage, raises a model of intelligent urban development replicable to Mexico and Latin America, with attractive space, infrastructure, quality of life, identity and history, safety, cleanliness and sustainability, cultural and economic activity, and its diversity of uses; focused on the production of digital media: animation, video games, special effects, multimedia production on the Internet, among others.

It has more than 600 high-tech companies, 35 design centers, 400 research centers, more than 100,000 higher education students, a remarkable number of exports and a park as a high-value public space. Guadalajara, was the city that showed more advantages, it is promoted in international destinations with the objective of attracting investments in the digital media and technology sector worldwide, it is projected the generation of 30,000 jobs in the next 10 years and in the specialization 15,000 more jobs. The creative complex and the central polygon covers an area of 43 hectares within the historic center of Guadalajara, seeking integration schemes to the inhabitants of the area (Ciudad Creativa Digital, 2018) for a comprehensive urban development of society, with workspaces, social housing, commercial spaces and tourism.

The CCD is aimed at the film sector, video games, animation, advertising production, multimedia, e-commerce, e-learning, among others; its focal point is the generation of an ideal geographic space for creative industries, with world-class infrastructure, a work environment aimed at all types of industries, including local, which enhances competitive entrepreneurship (Ciudad Creativa Digital, 2018).

More than 50 years ago it has manufacturing for the electronics industry, software development, cybernetics, digital creative industry, the demand for top-tier universities, the university student body, graduates and academics, and technical education centers have positioned the city for a CCD headquarters, of national leadership in attracting foreign direct investment in the electronics sector, its geographical position, its extensive road network and its land and air transportation points with two international airports (Ciudad Creativa Digital, 2018)

Rodríguez (2016) refers to the cluster model as a strategy to boost economic development, which increases the gross domestic product, jobs and business generation, which increases production and a redistribution of the flow of goods and services; boosting competitiveness and linking with government and educational institutions, knowledge transfer, cost reduction to improve the favorable conditions of the region, demand for products, higher level of competitiveness and knowledge transfer.

For a cluster to work there must be links for development, business and government, universities and the local population. As a focus of technological attention in Guadalajara, localization has been a strategic resource for its competitiveness, and on the part of the government cluster policies to reduce the constraints to the competitiveness of the cluster, effective problem solving, and joint efforts. (Rodríguez, 2016 and Ramírez, 2021).

The Spanish smart cities are posed on six working groups: among which are energy and the environment that in the CCD are highly estimated by the needs of the population, their housing, pollution, their waste, efficiency thought for the population where it is also necessary to think about the mobility of the inhabitants of large cities, their economy and business, aspects of greater importance for research. The research was focused on surveys to businessmen in order to know their level of knowledge about the approved project and their feelings about the traditional site:

Table 5.4 Methods and techniques of information gathering

Survey of businessmen in the historic center of Guadalajara	
Instrument	Personal survey
Type of instrument	Semi-structured
Population surveyed by	Probability sample using Simple Random Sampling (SRS)

Source: Own Elaboration

The semi-structured questionnaire was chosen because of the size of the population surveyed, since it is easier to standardize and formalize the response alternatives due to the large number of respondents. For this purpose, a pilot test was carried out to eliminate errors in wording and response alternatives. After this, the final application of the questionnaire began. The questionnaires were applied personally to the owners of the businesses, which made it possible to know the level of information about the project to transform this old and traditional zone of the historic center of Guadalajara.

Data processing and findings

With the data obtained from the research, we proceeded to process them by editing, coding and recording them for storage in files for later handling, tabulation and analysis. The computer program DYANE (Version 4), Design and Analysis of Surveys in Social and Market Research, is used. (Santesmases, 2009). This DYANE (Version 4) program allows the three basic tasks of the research to be carried out simply and effectively: designing questionnaires, recording data and applying a wide variety of statistical techniques for data analysis (univariate, bivariate and multivariate).

From the analysis of the information obtained, the percentages indicate that, out of every one hundred respondents, only ten know about the project through meetings to which they were summoned, which is a low percentage and can be attributed to the lack of efficient means of dissemination, affirming the above for the item that corresponds to the direct contact of the municipality; most agree that they would like to know the benefits that the implementation of the project will bring them, because just as they had not heard about it, they cannot imagine what it can bring them. A smaller group is interested in knowing the effects or benefits to the environment.

The means of dissemination through which those who know or found out about the project was television, the information medium through which the majority found out about it, followed by the Internet and social networks and word of mouth; it is worth noting that most of the merchants and people who run the businesses in the area only stay there during their working hours and have their private homes outside the historic center. Within the appropriate means to be informed of the progress of the project, the surveyed community agrees that the most viable are television, internet and flyers.

In the opinion of the businessmen of the historic center consulted about the conditions for attracting investment in the face of the CCD project, the following should be considered: welfare and security, with attention to these priorities can give confidence and certainty to merchants, thus avoiding risks for them, their workers and customers that in the face of conflicts, demonstrations and high rates of vandalism and crime in the city, they cannot work and therefore, achieve the livelihood for their families. Respondents perceive Parque Morelos and the San Juan de Dios market as the most dangerous areas.

Another concern they have is having to be forced to sell or expropriate their homes, land or property if it is demolished without their consent; as part of the aspects that concern the city's merchants, is the deterioration of the environment, such as the collapse of trees, since the buildings in the area are old, their perception is that by demolishing them and building others or more roads, the scarce green spaces they have may be diminished.

Conclusions

With respect to the specific objectives, we set out to learn about the foundations of the CCD in Guadalajara in order to identify the benefits that it can provide to the citizens, which in fact it already does. A survey was conducted among the merchants in the area to find out how aware they were of the project and the information disseminated about the Digital Creative City project in the historic center of Guadalajara and whether it would make it possible to comply with the observance and respect of the DESCA. From the project, it is observed that the polygon presents several completed buildings, an important progress in areas of the historic center that look remodeled, cleaner and "safer", the review of buildings that represent or may represent a risk for passersby in the area is being attended, but the CCD project to 2020 does not allow to distinguish both the successes that it has achieved or may achieve, because of the pandemic many activities were paralyzed for significant segments of time.

To point out the benefits of the digital creative city in the ZMG based on the Economic, Social, Cultural and Environmental Rights is still incipient to see its materialization; Among the goals set for the next stage of the CCD is the implementation of the Digital University, with an innovative academic offer and aimed at higher technical and university level, with postgraduate and continuing education, has an accessible portal, there is information on its operation, which should be greater and more accessible, comprehensive on enrollment and requirements; it is available on the website of the Technological University of Jalisco in the CCD. (UTJ, 2019).

It focuses on the technological environment and strategically involves the linking of public and private initiatives and universities, which should be a priority in the current dissemination of the project. The beneficial aspects for the merchants and their perception are just beginning and are the greater economic spillover and the improvement of security in the area. The CCD project is in line with merchants' expectations and will bring with it several other benefits, such as a greater influx and number of customers, an increase in the generation of jobs and a better image of the area, which for years has been a problem for businesses.

The improvement in communication routes was a less qualified aspect, although there are several unfinished projects that will benefit all the actors of the CCD that should be relevant, currently represent a real problem the means of transportation to access the Historic Center due to the works of line 3 of the Guadalajara light rail and the change of truck routes for that reason.

It seems that the CCD has contributed to the increase of tourism in the heart of the city, and they hope that the security strategies will work and eradicate vandalism, insecurity and street vendors who do not comply with the regulations of the City Hall, thus making the area look different and encouraging tourists to come.

The objective of transforming the center of the city of Guadalajara into a connected urban environment has to do with the general aspects of the area, to which respondents perceive that accessibility is the highest rated aspect, another aspect was the public lighting of the area, the maintenance and image that local government authorities should continue because for many years they abandoned the area and regaining trust is a matter of time and constancy of duty, such as security and police surveillance; it is perceived that most respondents approve of the CCD, although they perceive from fair to good the project.

The lack of information about the project and political secrecy, the wholesalers surveyed are the group that is best informed about it, the increase in jobs predominates in the group of wholesalers, while it was the group of retailers, which presented the greatest economic spillover; the problems in the area are analyzed with different perceptions, for the retail group prostitution is the recurring problem, informal trade and street vending are the most mentioned by the wholesalers of an old area with a reputation for vandalism, drug addiction and prostitution.

Finally, to give it a better image and to have adequate strategies to publicize the actions being carried out so that there is coherence between the environment and the project, so that the merchants perceive an integral benefit in which they can improve their economic conditions and belong to the commercial sector that will benefit as each stage planned for the short and medium term is implemented. It is still unknown how long it will take to start up the other stages of the Digital Creative City project, the employees who guard the buildings recognize that there are unfinished parts, there are new facilities, the people who work in commercial premises and the businessmen of the area report the lack of movement. The project has the character of an integral project for the recovery of spaces for the city center, "based on very concrete projects and pillars".

Recovery of heritage of cultural value such as the Casa Baeza Alzaga and the bridge that connects with the Plaza Tapatía, the foundations and construction of three basement levels for the three buildings, construction, equipping and finishing of two buildings and the rehabilitation of the neighboring street. The work carried out in its different stages, and its main interest in the area of innovation and technological development, or subsequently integrate other industries, such as fashion, jewelry and gastronomy. The companies interested in setting up here are linked to creative film and television production, and there is also talk of the early incorporation of the Tecnológico de Monterrey.

It is worth mentioning that they have carried out legislative work so that the Digital Creative City project has an Agency for the Development of Creative and Digital Industries and an organic law to give continuity to the Trust and the Master Plan, considered as OPD in its operation. To integrate economic investment to environmental, scientific, cultural, spiritual and social wealth in a megadiverse melting pot for a sum of collective intelligence, consumption, mobility, governance and sustainability.

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Chapter 6 Ethical-Legal dilemmas of the application of vaccines

Capítulo 6 Dilemas Ético-Jurídicos de la aplicación de vacunas

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Abstract

In a context in which an unprecedented pandemic has upsetting the entire world, there are collisions of rights and ethical problems that the legal system must resolve and whose solution is clearly not easy. We must start from the different environments in which society develops its fears, beliefs and even the misinformation that is emitted by irresponsible people without any or little degree of preparation in the matter. This paper focuses on vaccines and the series of conflicts that are triggered by their application and possible mandatory. We start from the hypothesis that the collective interest should prevail over the individual interest and beliefs; applying legal hermeneutics and epistemology and the technique of literature review we arrive at valid conclusions that allow us to confirm that modern states and in particular the Mexican State choose to protect in a privileged way the collective interest represented by the right to health and access to vaccines as a means of alleviating the pandemic and resuming the social and economic life that has been paused.

Collision of rights, Right to health, Religious

Resumen

En un contexto en el que una pandemia sin precedentes ha trastocado al orbe entero se presentan colisiones de derechos y problemas éticos que el sistema jurídico debe resolver y cuya solución a todas luces no es sencilla. Debemos partir de los diferentes entornos en que se desenvuelve la sociedad sus miedos, creencias e incluso la desinformación que se emite por personas irresponsables sin ningún o escaso grado de preparación en la materia. El presente trabajo se centra en las vacunas y la serie de conflictos que se desencadenan por su aplicación y posible obligatoriedad. Partimos de la hipótesis de que el interés colectivo debe prevalecer sobre el interés y creencias individuales; aplicando la hermenéutica y la epistemología jurídicas y la técnica de revisión de literatura arribamos a conclusiones válidas que nos permiten confirmar que los estados modernos y en particular el Estado Mexicano se decantan por proteger de manera privilegiada el interés colectivo representado por el derecho a la salud y el acceso a las vacunas como medio de paliar la pandemia y retomar la vida social y económica que se han pausado.

Colisión de derechos, Derecho a la salud, Libertad religiosa

1. Introduction

The right to health has implications that evidently go beyond the legal environment of citizens to reach personal issues such as their beliefs, in this section we will examine the scope of this much debated right and its permanent collision with religious freedom and sometimes even with the freedom of decision that the citizen has, analyzing the legal perspective of the problem and the solutions that the courts have given to these collisions framed in the social interest. The subject of the collision of rights is not something new but it is very transcendental and its answers are very varied in the doctrine and jurisprudence that are the ones who answer such questions in a more forceful way; in view of this it is a subject of permanent actuality and whose complexity is always present privileging an unrestricted respect to the human rights in the search to establish which are the assumptions in which from the national and international legislation, such rights can be delimited.

In the legal doctrine, authors such as Aldunate (2005) state that the collision of rights arises when "the legal effect of the legal protection alleged by a subject (holder of the respective right) is incompatible with the legal effect pursued by another subject based on an allegation of legal protection".

It is clear that, as with other legal concepts, there is no universal consensus on this concept and there are even currents in the doctrine that deny the existence of the collision of rights, such as Ferrini (1908) who states that in his opinion there can be no contradiction between two norms and therefore no real conflict between two rights; this position seems to be reinforced by the thinking of López Berenguer (2021) when he states that "[e]very system must tend to achieve maximum coherence and unity, through a fundamental postulate: the absence of contradiction. That is why the collision of subjective rights initially appears to the eyes of the jurist as something totally incompatible with the idea of a system", and further adds:

The possibility of the existence of incompatible rights is repugnant to the idea of legal order. They would be spheres of power in struggle, with the consequent lack of order. In the abstract, within the juridical order, the existence of incompatible rights cannot be conceived. Contradiction would destroy the system (López Berenguer, 2021: D-70).

Despite these postulates, in the careful analysis that the referred author makes of the subject, he concludes that the collision of rights does occur, but for this to exist, he considers that certain assumptions must converge in principle that the "concurrence is of equal rights, and, in addition, that no other reason advises the application of any of the remaining principles of the collision. It does not apply, therefore, when rights of different nature concur, and even of different date, according to the most common solution, although not general" (López Berenguer, 2021:D-149).

Consequently, it can be deduced that modern doctrine in general terms considers the existence of the collision of rights feasible given the evidence in the sense that the legislator frequently falls into contradictions and that the very nature of the rights periodically causes them to be in conflict with each other.

2. Fundamental rights to health and religious freedom

In order to introduce the problem under study, it is essential to examine the concepts involved in the research. Thus, we can establish that the right to health, whose definition is not simple in light of the debate as to its nature as a social or public right and even as a private right, although in general terms it has been framed in the first category since, as Montiel (2005) states, at the beginning it was catalogued only in the assumption of recovering health, to later be extended also to the prevention of diseases and we must add that more recently to a sufficient and adequate food, adding the very important value of dignity. That is why the Mexican Supreme Court of Justice has determined that the right is presented in two dimensions, one individual and the other collective (Montiel Lucia, 2005).

In merit of the above, rather than thinking of a limited definition of the right, we must focus on determining its content, for which we consider it pertinent to start from the tenor of the international instruments in the universal system of human rights, within which we could focus in principle on article 10 of the Additional Protocol to the American Convention on Human Rights on Economic, Social and Cultural Rights (Protocol of San Salvador (OAS, 1988)), which determines:

Article 10. Right to Health

1. Everyone has the right to health, understood as the enjoyment of the highest level of physical, mental and social well-being.

2. In order to give effect to the right to health, the States Parties undertake to recognize health as a public good and, in particular, to adopt the following measures to guarantee this right:
a. Primary health care, understood as essential health care made available to all individuals and families in the community;
b. The extension of the benefits of health services to all individuals subject to the jurisdiction of the state;
c. Full immunization against the major infectious diseases;
d. The prevention and treatment of endemic, occupational and other diseases;
e. The education of the population on the prevention and treatment of health problems; and
f. The satisfaction of the health needs of the most vulnerable and high-risk groups due to their conditions of poverty.

The Convention protects the essential aspects of the right to health in its physical and mental dimensions, making States responsible for its adequate protection through prevention and, of essential interest to this study, through immunization.

Of particular relevance is General Comment 14 of the Committee on Economic, Social and Cultural Rights (UN, 2000), which in its twelfth paragraph establishes that the right to health encompasses four essential and interrelated elements: availability, accessibility, acceptability and quality.

Thus, it is clear that three of the elements depend to a large extent on the state and only one of them on the will of individuals. Availability and accessibility are obviously very different concepts, since the former depends on the existence of many diseases for which there is still no cure, so that in such cases there is no availability, speaking in the case of vaccines, although the instrument in question also alludes to human and institutional capital in this sense, and neither is there availability when the necessary authorizations are not granted by the competent public health agencies.

Consequently, in our opinion, availability is a prerequisite for accessibility, which may depend on medical, economic and political factors, this is so because, as established in the fifth paragraph of the observation under study:

The Committee is aware that for millions of people around the world, full enjoyment of the right to health remains a remote goal. Moreover, in many cases, particularly for those living in poverty, this goal is increasingly remote. The Committee is aware that formidable structural and other obstacles resulting from international and other factors beyond the control of States impede the full realization of article 12 in many States parties. (UN, 2000).

To reaffirm the above, accessibility in the terms of the aforementioned instrument also includes the absence of discrimination, real physical accessibility, economic accessibility, which in the case of vaccines in Mexico does not represent a problem given that they are free of charge, and access to information (UN, 2000) which in the case of vaccines in Mexico has presented problems of misinformation caused by politicians and media that without scientific support have disqualified some of the vaccines acquired by our country and generated problems of mistrust in the population that affect the levels of immunization.

Acceptance is the central point of our analysis today. Faced with the onslaught of the pandemic that has called into question the scope of individual freedom in the face of social interest, there is no doubt that we have to consider the aforementioned collision of rights and ask ourselves: is it reasonable to sacrifice social interest before the freedom of the patient or, in this case, religious freedom?

It is therefore necessary to allude to religious freedom contained as an express right in article 24 of the Constitution and to determine its content for this purpose it is worth citing our highest court that has determined in this regard (SCJN, 2018):

[...] Article 24 of the Constitution enshrines freedom of religious belief, which in itself implies and presupposes freedom of belief, freedom to believe in what one chooses to believe and consequently to act accordingly.

[...] The first paragraph consecrates religious freedom, that is, the freedom to hold and cultivate the religious beliefs that each one considers; a freedom that also includes the freedom to change religious beliefs. The precept also contains a reference to both the internal dimension of religious freedom ("everyone has the right to freedom of ethical conviction, conscience and religion, and to hold or adopt, as the case may be, the religion of his choice"); and the external dimension of the same ("This freedom includes the right to participate, individually or collectively, both in public and in private, in the ceremonies, devotions or acts of the respective cult, provided that they do not constitute a crime or offense punishable by law").

Closely linked to the right in question we find the conscientious objection that has become a legal means to claim this freedom of belief that our fundamental charter limits to religious beliefs and that Irrazábal, Berri and Funes(2019) consider that "it implies making use of the right not to be forced to carry out actions that oppose certain ethical or religious convictions".

Cobos(2015) considers that this right under the heading of religious freedom actually comprises three diversifiable rights which are ideological freedom, religious freedom and freedom of worship, inferable deduction from the content of the aforementioned constitutional text, from international instruments such as the American Convention on Human Rights article 12, International Covenant on Civil and Political Rights article 18, Universal Declaration of Human Rights article 18, European Convention for the Protection of Human Rights and Fundamental Freedoms article 9 and from the jurisprudence of the Inter-American Court of Human Rights and the European Court of Human Rights.

From the doctrinal conception we consider that the concept of Roa(2015) is adequate to define this transcendental right which he considers to be the "right of individuals and communities to have a set of ideas about the existence of a superior being or divinity, some ethical standards of individual and collective conduct, some rites to please or celebrate their deity, a way of relating to the superior being and the possibility -not obligation- to manifest or externalize this set of ideas individually and collectively, always within a relative conception of fundamental rights that adheres to the limits of public order and respects the rights of third parties".

The transcendence of the right in question in the present analysis is translated into the feasibility of alluding to the religious freedom to refuse to receive the immunization, particularly with regard to the present pandemic that scourges all countries at the present time, a point that we will examine in the following paragraphs.

Regarding the concept of public interest, we turn to Huerta (2007), who considers that it is not an univocal meaning, but from a functional perspective we can say that it justifies the intervention of the state in the legal sphere of individuals, an intervention that can take various forms of restriction of their rights, either through permits, prohibitions or forms of management, according to the author in question. It is clear that such limitations cannot be arbitrary or unlimited, but the point of discussion is precisely those limits of the state in terms of immunization of the population.

It is also worth examining the concepts that are also related to the problem under study, starting from what can be considered a public health emergency of international concern, which is the term used by the World Health Organization. We consider that an emergency should be considered as such when it has the connotation of extraordinary, as opposed to issues that affect public health on a daily basis, but also constitutes a risk for the latter, derived from the ease with which the disease in question is transmitted and that at a given moment may require international coordination, it is not really a concept but rather a list of characteristics that we believe do not allow a clear identification.

It is evident that the current COVID19 pandemic meets all these characteristics given the scope and ease of its spread, which has forced countries to establish unusual control measures; Similarly, we must establish the concept of pandemic, which is not simple because according to Villarreal Lizárraga (2019) existing ones are vague, but the author concludes that an adequate concept should contain several elements that start from the fact that it is one of many events that can be framed under the legal concept of public health emergency of international concern referred to in the aforementioned regulation, also, it is preceded by an epidemic and always refers to communicable diseases; Thus, we can say that a pandemic is a public health emergency derived from a communicable disease in an accelerated manner and whose effects are of global significance; Therefore, its distinguishing features are its transmissibility and global impact, which leaves no doubt that the so-called COIVD19 that causes the disease that bears its name and is known as severe acute respiratory syndrome coronavirus 2 (SARS -CoV-2) is a pandemic that at the date of writing this paper has already caused 3,466,670 deaths in the world, of which 238,770[7] correspond to Mexico, a number that unfortunately will increase.

Regarding religious freedom and its collision with the right to health, in light of the recognition that the Supreme Court of Justice of the Nation itself has made regarding the non-existence of absolute rights, as can be seen in the contradiction of thesis under the heading "Human rights contained in the constitution and in international treaties. constitute the parameter of control of constitutional regularity, but when in the constitution there is an express restriction to the exercise of those, what is established in the constitutional text must be followed" (SCJN, 2014), issued by the highest Mexican court, emphasizing that "[...]those rules that establish some kind of limitation or restriction, do not redefine the right or translate or design it, but in its case, they limit, limit or suspend its exercise for valid objective reasons. [...] In the first place, fundamental rights are not absolute, as has been recognized by the jurisprudence of this Supreme Court and international doctrine[...]"(SCJN, 2014).

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[7] https://datos.covid-19.conacyt.mx/

Once this premise is established, it is also necessary to determine what has been the position of the Supreme Court of Justice of the Nation, in the collision of the rights in question, thus verbigracia in Amparo en Revisión 1047 of 2017, under the heading "The state may intervene when the life or health of a minor is at risk and his parents do not accept the appropriate medical treatment", the court consequently opts for the right to life and health of the minor against the right of the parents to exercise their religious beliefs that prevented the appropriate treatment of the minor in question.

In another order of ideas in Amparo en Revisión 854/2018, a group of 15 ophthalmologists and an Otolaryngologist, aspiring to take the exam of the Mexican Board of Ophthalmology and Otolaryngology respectively, argued that the same had been scheduled on Saturday and that according to their beliefs they could not take it on that day; In this regard, the Court considered that the grievances asserted were inadmissible since, as determined by the law on the matter in its first article, "religious convictions do not exempt in any case the compliance with the laws of the country and that no one can allege religious reasons to evade the responsibilities and obligations prescribed in the laws" (Legislative Power, 1992), in this case they were bound by provisions of legal orders that in no way affect their religious freedom.

Furthermore, in Amparo en Revisión 1049/2017, the highest court states that "[...] religious freedom is not absolute, since it is subject to certain limits imposed by the Constitution: the rule of law, the rights of others, the prevalence of public interest and the fundamental rights of the individual against its abusive exercise [...]" (SCJN, 2017).

It is evident that in cases of collision the Mexican Court has privileged health over religious freedom, however in the issue that concerns us specifically a turning point is represented by Constitutional Controversy 20/2021, through which a Mexican City Council fought the so-called National Policy of vaccination against the SARS-CoV2 virus for the prevention of COVID-19 in Mexico, requesting the suspension of the same in that municipality, which was denied on the grounds that it was not in any way the preservation of a right; However, the merits of the matter are actually related to public health competencies and not to the application of the vaccine itself.

On August 17, 2021, a District Judge granted in Amparo 1054/2021 the protection of federal justice to a minor so that he could be vaccinated, empowering the health authorities to carry out the assessment of such application in the specific case.

As it is evident that there are still no judicial precedents to apply in this matter that would allow to visualize which way the Court could decide in the case of establishing the obligatory nature of the vaccine and that this would collide with the freedom of beliefs, until today the federal executive maintains the voluntariness of the citizens in its application, in spite of the existence of laws that could support a decision towards the obligatory nature of the vaccine.

3. Vaccines and their legal regulation

As for the vaccines themselves, they "may contain the microorganism that causes the disease (a virus or a bacterium) but killed or weakened, some derivative of the microorganism (for example a toxin) or particles of the microorganism (protein), for the production of defenses. These types of substances are called antigens"[8].

A vaccine can be defined according to Bellver(2015) as an "extraordinary instrument of immunization of the population against infectious diseases".

Now, as regards its regulation, we start from the protection that article 4 of the Constitution provides in relation to health, where it is clearly determined that the right is specified in safeguarding health, we could determine that there is an indiscriminate freedom for the subject of the right to refuse to receive any treatment or medication.

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[8] https://www.gob.mx/profeco/documentos/vacunas-tu-derecho-y-obligacion-de-estar-sana-o?state=published

However, is this true? Is there an absolute facultative power?

Article 35 of the Charter of Fundamental Rights of the European Union (Bellver, 2015) states that "everyone has the right to preventive health care and to benefit from health care in accordance with the conditions laid down by national provisions. A high level of human health protection shall be ensured in the definition and implementation of all Union policies and activities".

It is clear that the international instrument focuses on the obligations of states and not on the discretionary power in the individual exercise of the right in question.

The Inter-American Commission on Human Rights adopted, last April 6, 2021, Resolution No. 1/2021 corresponding to: "Covid-19 Vaccines within the Inter-American Human Rights Obligations"(IACHR 2021), which has as its main objective to contribute to the States to assume the scope of their international obligations in the context of decisions on vaccination, in order to guarantee human rights, especially the right to health and life. The aforementioned document states in a recital,

[...] that free, prior, full and informed consent derives from rights recognized in the Inter-American System such as the right to health, the right to receive and access information and the right not to suffer arbitrary interference in privacy, and that it is also a central aspect in the development of human rights bioethics, understood as a necessary tool for framing and resolving the challenges and dilemmas related to the pandemic.

In addition, the document ratifies the obligation of the state to combat disinformation and provide clear and accessible information for this purpose. From the above, it is possible to deduce that the Inter-American Commission on Human Rights is inclined towards non-obligatory vaccination and holds the State responsible for the sufficiency in the dissemination of information on the subject in order to avoid misinformation and rumors that lead citizens not to be vaccinated.

The internal secondary legislation is essentially the general health law that clarifies this aspect, since its content determines the obligatory nature of the application of vaccines in its article 144 (Congress of the Union, 1984), where it establishes that "[t]he vaccination against transmissible diseases, preventable by this means of immunization, which the Ministry of Health deems necessary, will be obligatory under the terms established by said agency and in accordance with the provisions of the present Law". In the previous wording of this numeral, there was an enumeration of vaccines to be applied that is not currently contained and, furthermore, regarding the regulation of vaccines, numeral 157 Bis 1 establishes that:

Every person residing in the national territory has the right to receive the vaccines contained in the Universal Vaccination Program universally and free of charge in any of the agencies and entities of the Public Administration, both federal and local, of the National Health System, in accordance with this Law, regardless of the social security or social protection regime to which he/she belongs.

The persons who exercise parental authority, guardianship, custody or, in general terms, are responsible for minors or incapable persons, shall be obliged to take all the necessary measures so that they receive the vaccines contained in the Universal Vaccination Program.

Likewise, article 404 of the aforementioned legal body determines that the vaccination of persons is a sanitary security measure and, finally, numeral 408 empowers the sanitary authorities to order vaccination as a security measure, among others, in case of serious epidemics in its second fraction and in the last paragraph it states "[t]he actions of extraordinary immunization will be mandatory for all individuals in the national territory" (Congress of the Union, 1984).

However, to date there is no mandatory policy regarding the COVID vaccine, despite the fact that it could easily be included in the assumptions of the law on the subject in the interest of health security, which has undoubtedly been broken by the pandemic, since the public policies regarding the same were not included in the universal program, but in a different document called Política nacional rectora de vacunación contra el SARS-CoV-2 para la prevención de la COVID-19 en México. Guiding document.To date, 1,675,155,698 have been administered, but what we intend to reflect on is precisely from a legal perspective whether there really is an obligation to be vaccinated.

If we examine the components of the right to health we will find that it is concretized in the protection of health but this protection cannot be at all times optional since in cases like the current one the interest of society in general is affected by those who refuse to be vaccinated, then, can the state force them to be vaccinated?

And, if so, what means will be valid to compel the refusers?

In principle and under the aforementioned guidelines of the general health law, there is no doubt that there is not only the right but also the obligation to be vaccinated.

However, there is also the questioning of the scope of religious freedom since there are creeds in which their members are prevented from receiving vaccinations.

Uberos (2013) considers that the anti-vaccine movement originated in the United Kingdom in 1853 and from there it spread to the whole world, causing public health problems in the communities where they reside due to their refusal to any type of inoculation.

Castro Méndez (2018) states that resistance and distrust towards vaccines arises contemporaneously with the experiments of Edward Jenner, in 1802, so it is a controversy that has spread throughout the evolution of the forms of inoculation. He also points out that Hinduism and Buddhism are beliefs prone to vaccination, as are Eastern Orthodox churches, Amish, Anglicans, Baptists, the Church of Jesus Christ of Latter-day Saints, Congregationalism, Episcopalianism, Lutheranism, Methodism (including African Methodism), the Methodist Episcopal Church, Pentecostalism, Presbyterianism, the Seventh-day Adventist Church and Catholicism. On the other hand, the Dutch Reformed Church has been against its application since the 19th century, which caused outbreaks of diseases such as measles in 2013 in the Netherlands.

In Mexico, according to INEGI[9] 2020[10] census data, there are 90,224,559 people over five years of age who profess the Catholic religion, 16,118,762 people who profess religions other than Catholicism and 9,156,555 people who said they have no belief or creed. In principle, the Catholic Church, as already mentioned, is in favor of vaccination and does not establish restrictions for it; however, in view of the discussions that have arisen in relation to the use of fetal matter from voluntary abortions, it has made an express pronouncement in the sense that public health cannot justify voluntary abortion (Vatican 2020); However, it is also clarified that "it is morally acceptable to use vaccines against Covid-19 that have used cell lines from aborted fetuses in their research and production process", when no other type of vaccine is available (Vatican, 2020).

Muslim fundamentalists have presented resistance and strong opposition to the application of vaccines such as the polio vaccine, failing immunization efforts against this disease in countries such as Nigeria, Afghanistan and Pakistan. This has led to outbreaks of the disease in eight African countries (Warraich HJ, 2009).

Evangelicals are another of the religious currents that are not akin to the application of vaccines (Días and Graham, 2021), for them it is the divine action that protects and heals, the seriousness of this refusal at least in the United States is that this community amounts to 41 million white evangelical adults in that country and of them approximately 45 percent have stated that they will not be vaccinated against COVID 19 (Días and Graham, 2021).

As for their judicialization, the origins of these objections are considered to derive from the case of Jacobson v. Massachusetts (U.S. Supreme Court, 1905), brought before the U.S. Supreme Court. Supreme Court, 1905), brought before the Supreme Court of the United States because the citizen refused to be vaccinated against smallpox arguing that he had the right to take care of his own body as he deemed best, however the Court found that in the conflict of rights should prevail the public health that would be affected if not vaccinated with clear clarity determines that freedoms are not absolute and that it is legitimate the existence of a mandatory vaccination law that does not contravene the constitutionally enshrined right to liberty.

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[9] Acrónimo del Instituto Nacional de Información Estadística y Geográfica
[10] https://www.inegi.org.mx/temas/religion/#Informacion_general

Notwithstanding this ruling, most local legislations in that country allow citizens to exercise their right to religious objection and on that basis allow people to request religious exemptions to mandatory vaccinations, the number of exemptions requested to increase more and more.

In Spain, judges have established the obligatory nature of their application in specific cases, thus in November 2010, in the face of an outbreak of measles that was getting out of control, the Andalusian government decided to forcibly vaccinate children in an area of Granada and, given the refusal of some parents to allow the vaccination of their children, the Administrative Court 5 of Granada authorized the forces of order to accompany the medical staff to force parents to vaccinate them (Tribunal Superior de Justicia de Andalucía, 2010).

In a similar vein was the decision handed down by the Superior Court of Justice of Catalonia, Administrative Chamber, on March 28, 2000, in which parents challenged the resolution of the Autonomous University of Barcelona that left without effect the enrollment of their minor daughter because they were reluctant to have any type of vaccine administered to her. The decision held that there was no violation of the right to education and determined that there was

[...] the failure to comply with obligations aimed at disease prevention, which in practice translate into the requirement to prove the systematic vaccinations that correspond to their age, which respond to the idea of obtaining a group immunity that, in addition to protecting individuals not vaccinated due to individual contraindications from contagion, allows the elimination of the disease from a given geographical area, and even worldwide (Alvarez, 2020).

Another precedent also from Spain in 2002, where the Superior Court of Justice of La Rioja (2002), Contentious-Administrative Chamber, challenged a decision of a state authority that prevented a minor from enrolling in a daycare center because he did not have a vaccination card because his vaccination card was not up to date. In the ruling, the judge made it clear that the right of access to a daycare center of parents who did not want to vaccinate their child could not be superior to the right to health of the rest of the children:

In fact, nothing prevents such an alternative option and nothing obliges a vaccination that is decidedly rejected; but the power of the Administration to impose such a requirement on those who intend to use the day care services, denying admission to children who do not comply with it, cannot be ignored, given that the prophylactic measure applied to each child is advisable for the health of all the members of the group. In short, whatever option the parents had taken in this matter regarding the health care of their child, it was in accordance with the law to deny the child admission to the day care center if the requirement to undergo the official vaccination imposed by law for this purpose was not complied with.

In January 2021 a judge has forced to vaccinate an elderly dependent woman living in a nursing home in Santiago de Compostela despite her daughter's refusal to do so. "Vaccinating may entail a risk, but not doing so also; it is a matter of putting the two risks in the balance and opting for the lesser evil, which for an 84-year-old person is to be vaccinated," has assured the head judge of Santiago Castro's Court of Instruction 2, 2021).

The conflicting rights represent an important dilemma for the legal order, but in the interest of public health and given the dimensions of the pandemic and its damage, it seems clear that personal interest cannot prevail over a general interest of a global nature, that is the criterion that the courts seem to assume in this regard.

Countries such as Argentina have opted for the obligatory nature of the vaccine, while others such as Spain and Mexico have favored freedom of decision, in the latter despite the existence of a legislation that makes the vaccine obligatory. On the other hand, the Senate of the Republic in the explanatory memorandum of the proposed reform to the general health law of March 2012 regarding vaccines, considered that

[...] vaccines represent a fundamental and essential health tool, since they are a highly efficient and cost-effective public policy to save and improve lives, in addition to having a high social value, thanks to their multiplying effect of benefits derived from the prevention of communicable diseases.

The legal doctrine raises many dilemmas in this regard such as those arising in the workplace under the scheme that if a person is not vaccinated what may be the attitude of others, can they validly absent themselves from work to avoid running risks?

The validity of the vaccination requirement for travel is also raised, despite the fact that this requirement has existed in some countries for decades.

It is a debate of voluntariness versus obligatory nature. Of fundamental rights such as health or personal freedom, versus collective health and safety.

In all this panorama, what does the jurisprudence tell us?

We will analyze in this paragraph what the European Court of Human Rights resolved in the case of Vavřička and others against the Czech Republic (European Court of Human Rights, 2013), in principle it determined that, although it was true that the Court considers that vaccination is an intrusion into the private life of those who are subjected to inoculation and from that perspective the eighth article of the Convention would be updated considering the existence of an interference in this, It is also true that the Court itself has considered that vaccination is compulsory, and the interference, despite being so, the essential point is to determine whether it was justified, that is, carried out in accordance with the law, whether it pursued legitimate aims and whether such interference can be considered necessary in a democratic society. In the first sense, the intrusion must have taken place within the framework of domestic law, which is evident in light of the content of the legislation of the country in question, particularly contained in the Charter of Fundamental Rights and Freedoms (Constitutional Law no. 2/1993), the Ministerial Decree 537/2006 and the Public Health Protection Act Law No. 258/2000, which contained the classification of vaccines, the conditions for their administration and the methods for examining immunity (European Court of Human Rights, 2013).

Accordingly, the Court considered that compulsory vaccination amounted, in principle, to an admissible limitation of the fundamental right to freely manifest one's religion or beliefs, since it was evidently a necessary measure in a democratic society for the protection of security, public health and the rights and freedoms of others and its essential objective is precisely the health and protection of the rights of others, so they are relevant and sufficient reasons in the pursuit of a legitimate aim (Ayala, 2021).

In the opinion of Ayala (2021), it is necessary to differentiate between the fact that child vaccination is currently an unbiblical part of the public health programs of modern states, and the fact that the compulsion to vaccinate does represent a "sensitive issue that should not be forgotten as it encompasses the value of social solidarity", the author considers that this is a historical failure given its connotations that will set the tone for the present international situation. In the internal context at least in Europe there are multiple resolutions in which the constitutional courts have estimated the legitimacy of these mandatory measures as constitutional so we have verbigracia in France Decision No. 2015-458 QPC of March 20, 2015 - Husbands L. [Vaccination obligation] , Italy Judgment No. 5 of 2018, Estonia Constitutional judgment 5-18-5 , the list would be endless by virtue of the fact that there are already many precedents on the matter in Europe, although we cannot say the same in Latin America generating as stated by Morice and Aguila-Aguero (2009) resurgences of already controlled diseases such as measles and rubella in countries such as Costa Rica and Argentina.

Consequently, the opinion of the consulted jurisprudence is generalized in the sense that although compulsory vaccination causes interference in the right to privacy and freedom of belief, such interference is justified by the interest of public health and therefore it is not an arbitrary or disproportionate interference, it is invariably supported by domestic legislation and the reasons that drive it are based on the aforementioned public interest.In Mexico, as analyzed in the preceding paragraphs, there are still no jurisprudential decisions to guide us in this regard.

4 Conclusions

We can therefore determine that vaccines represent adequate protection mechanisms for the prevention of countless diseases that have scourged humanity and their existence is undoubtedly necessary in contemporary states.

Regarding the collision that their application generates with other fundamental rights, particularly with the right to privacy and freedom of belief, it is possible to establish that rights are not absolute and that they can be limited as long as the premises that the jurisprudence itself has established, such as proportionality, are complied with.

In the case of Mexico, as already mentioned, the Supreme Court of Justice of the Nation has determined that in this country there are no absolute rights (SCJN, 2014), which leaves the door open to resolve in the specific case what would be the legal right to be protected in the collision of religious freedom and public health, although the particular cases examined in this regard allow considering that the right to public health could prevail.

In the content of the internal legislation in Mexico there is an express power for the health authorities to establish the obligatory nature of vaccines, so that when the rights that we have been mentioning collide, we consider that it is justified to assume the criteria that have prevailed in most of the world, privileging the general interest over the individual, so that such action could not be considered contrary to the constitutional spirit or illicit, but as a valid limitation to human rights for the sake of higher purposes such as public health.

It is also possible to conclude that in general terms and in view of the INEGI data regarding religious beliefs, vaccine resistance in this country is not mostly generated by religious beliefs but by misinformation, which seems to prevail despite the efforts of the Mexican State to keep the population informed regarding vaccines, particularly the COVID-19 vaccine; consequently, it is necessary to expand the research and introduce empirical data collection techniques in order to determine the real problem of resistance and its solution.

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Chapter 7 Academic stress in the students of the Bachelor's Degree in Administration of the Tecnológico de Estudios Superiores de Villa Guerrero in times of Covid 19

Capítulo 7 Estrés académico en los alumnos de la Licenciatura en Administración del Tecnológico de Estudios Superiores de Villa Guerrero en tiempos de Covid 19

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Abstract

Higher education in Mexico has important challenges, one of them to face in the almost immediate future, is the mental health of its community, both student and teacher, finding in academic stress one of the most important factors that the COVID-19 pandemic has left. The present study allows to recognize this condition in university students of the Degree in Administration of the Technological of Superior Studies of Villa Guerrero, in the state of Mexico, same that, according to the recognition of three important elements such as: stressors, symptoms and coping strategies, it will be possible to diagnose the effects of this, during the health contingency, to propose alternatives to the management of academic stress in the school community.

Academic stress, Students, Administration

Resumen

La educación superior en México ostenta retos importantes, uno de ellos a enfrentar en un futuro casi inmediato, es la salud mental de su comunidad, tanto estudiantil como docente, encontrando en el estrés académico uno de los factores más importantes que la pandemia por COVID-19 ha dejado. El presente estudio permite reconocer este padecimiento en alumnos universitarios de la Licenciatura en Administración del Tecnológico de Estudios Superiores de Villa Guerrero, en el estado de México, mismo que, de acuerdo al reconocimiento de tres elementos importantes como son: los estresores, la sintomatología y las estrategias de afrontamiento se permitirá diagnosticar los efectos de este, durante la contingencia sanitaria, para proponer las alternativas del manejo del estrés académico en la comunidad escolar.

Estrés académico, Estudiantes, Administración

1 Introduction

The specialist in school psychology Yanning Calderón Pérez – A researcher at the National Autonomous University of Mexico, she explains that, as human beings, we develop in different social spheres, the main ones being: family, couple, school and work. In each of them we have different demands and when there is an excess of these, it is feasible the manifestation of stress, which is a natural response of the organism that has allowed us to survive because, she argues, it is the automatic response of the body to face situations that are threatening or challenging (Toche, 2019).

One of the most studied environments as a stress triggering medium is the school or academic environment, depending on the level of education (Roman and Hernández, 2011). Lloyd M. (cited in IISUE, 2020) in the article Education and Pandemic refers that the COVID-19 pandemic exposed educational inequalities in Mexico and other countries. The Mexican government and educational institutions have resorted to a variety of strategies with the help of technology in an attempt to continue providing education to more than 36 million children and adults in the country.

Despite this, the virtual form faces serious limitations, difficulties and ethical questions, especially regarding the equity of the model. Among the factors that condition access to quality online education are: social class, race, ethnicity, gender, geographic location and the type of educational institution to which they belong. (pp. 115), representing the scopes or limitations that students are part of at the time of a teaching-learning process.

Dussel, Ferrante y Pulfer (2020) The report presents different points of view on the effects of the pandemic on education in students, teachers and educational authorities, since it is possible to perceive the negative effects on mental health and the ways of interacting in children and young people, and on the other hand, the opportunity to reinvent the school and its old inertias that reflect the uncertainty of this fact never seen before: millions of people in isolation.

Therefore, it is of interest to study the context of the students of the Tecnológico de Estudios Superiores de Villa Guerrero. (TESVG), located in the State of Mexico, which has eight bachelor's degrees and approximately 1500 students in a rural context, considering for this study specifically the Bachelor's Degree in Administration, where the majority enrollment of this institution is located and in which the authors of this research are attached, the interest and concern about the symptoms that students have come to present in times of pandemic as a result of COVID 19, as well as the stressors that may be triggering them, and the coping strategies they have used, are the reasons for developing the present study through the application of the instrument adapted to the context of the COVID-19 crisis of the SISCO SV Academic Stress Inventory for University Students.

The importance of this research lies in the importance of the SISCO SV Academic Stress Inventory with its adaptation to the pandemic, applied to a sample of 177 students of the Bachelor's Degree in Administration of the TESVG, which through a factor analysis with Stata software for information processing, will allow to obtain the stressors, symptoms and coping strategies for those students who have suffered from it, will allow obtaining the stressors, symptoms and coping strategies for those students who have suffered from it, thus providing alternatives for the management of academic stress in the student community, so that this study is part of the water for the diagnosis and establishment of a health education program.

This can be observed in the methodology section, while the results will show the development of the information processing in a synthesis of the results of the analysis of the most important factors rescued from Stata, it is worth mentioning that the statistical model obtained a validity through the KMO test, which will be described in the same section.

2 Literature Review

To understand this research it is necessary to contextualize the time and place in which it is developed, as this has an impact on the results, for this reason reference will be made to the pandemic during 2020 and so far in 2021.

According to the portal provided by the Government of Mexico (2020) "The SARS-Cov-2 coronavirus is a virus that appeared in China. Then it spread to all continents of the world causing a pandemic. Currently Europe and America are the most affected". This new virus causes the disease known as COVID-19.

The COVID-19 pandemic unleashed a health event with worldwide repercussions, the population was forced to comply with mandatory social isolation as a radical measure to counteract the spread of the virus, in this context the education system is the one that underwent the most changes, implementing online education globally. (Alania R. et al., 2020).

The challenges that afflict the Mexican educational system are great, given that the conditions for developing distance learning are unequal and vary in relation to the role played by those involved.

Academic stress

Over time we can find proposed concepts in stress, even some used interchangeably, such as the terms stress, anxiety, study worry or test anxiety, for academic stress according to Putwain (García-Ros, Pérez-González, Pérez-Blasco, & Natividad, 2012).

Starting from the types of stress, according to the nature of the condition, i.e., the place where it develops, we can find two: work stress, as it is triggered in the workplace, and academic stress, which is produced by the demands of the educational environment. However, the effects do not only fall on one figure; strictly speaking, it could affect both teachers - let us remember the problems of public speaking anxiety or the so-called Burnout syndrome or the stress reported by teachers in the approach to their teaching tasks - and students (Caldera, Pulido, and Martínez, 2007).

In the same way, it has been proposed to reserve the use of this term, academic stress, to designate the experience of higher grade students, using the terms teaching stress when analyzing the situation of teachers and school stress when talking about compulsory education levels (García-Ros, et al., 2012).

It is through this study that it is intended to know which are the stressors that most influence the presence of academic stress, since, having this information will allow improving the welfare of students and their academic performance, opting to apply strategies in favor of the results that result here, same that allow the student the use of efficient and adapted study techniques, for example, the practice of sports or recreational activities and the planning of time for hobbies and pastimes; and thus prevent the consequences or, if applicable, the adverse effects of academic stress (Ferrera and Bárcenas, 2016).

Arturo Barraza Macías, researcher at the Pedagogical University of Durango, pointed out that the main reasons why students get stressed are exams, surprise exams, homework overload and the teacher's character, (...) instead of promoting knowledge, it generates memory loss and learning difficulties (Miranda, 2019). To understand this work it is necessary to develop the following concepts: stressors, symptoms or symptomatology and coping strategies.

Academic stressors

Stressors are any external or internal stimulus that, in an acute or chronic manner, can be perceived by the individual as important, dangerous or potentially capable of modifying his or her life, causing a destabilization in the equilibrium of the organism (Lucini and Pagani, 2012).

According to Osorio (2018) The demands that can give rise to stress are of two types:

– Internal Demands: those that we make to ourselves when we are very self-demanding, have high expectations of achievement, need to maintain control and strive for them, among others.

– External Demands: Those that our environment presents us with, such as having to hand in assignments and take tests and exams in a limited time; doing group work; presenting in front of the course (dissertations); not understanding the contents addressed in class; limited time for academic obligations, among others.

As mentioned by González L. (2020) in recent months the external sources of stress have intensified as a result of the COVID-19 pandemic, in this sense to obtaining good grades, passing exams and the level of demand of teachers, have been added others such as uncertainty due to isolation, the little coexistence, the concern generated by a possible contagion and to top it off, The fear of not having a good computer and resources to pay for the internet and stay connected to receive classes, including the limitations of telecommunications services, a very present issue in public schools and in students who are in rural communities, being able to fail or have a low grade for this fact is a source of stress.

Symptomatology of academic stress

In relation to the symptomatology we can indicate that stress of academic origin has, like other types of stress, individual physical, behavioral and psychological manifestations, for the case of physical manifestations we find increased pulse rate, heart palpitations, increased perspiration and muscle tension in arms and legs, shortness of breath and grinding of teeth, sleep disorders, chronic fatigue, headache and digestion problems. On the other hand, frequent behavioral responses are: deterioration of performance, tendency to argue, isolation, listlessness, smoking, alcohol consumption or others, absenteeism, accident proneness, nervous gestures, increased or decreased appetite and increased or decreased sleep. Psychological responses include: restlessness, depression, anxiety, disturbance, inability to concentrate, irritability, loss of self-confidence, worry, difficulty in making decisions, recurrent thoughts and distractibility. (Suárez-Montes and Díaz-Subieta, 2015).

However, researchers (Alfonso, Calcines, Monteagudo, and Nieves, 2015), consider that physical discomforts are those that involve a reaction of the body itself, psychological ones have to do with the cognitive or emotional functions of the person, while in the behavioral ones are those that involve the conduct of the person for example arguing, isolation from others, absenteeism from classes, among others.

Coping with stress

Coping according to Lazarus and Folkman, 1986, (as cited in Berrío N. and Mazo R. 2011) "Is the process through which the individual manages the demands of the individual-environment relationship that he or she evaluates as stressful and the emotions that this generates".

Some of the strategies that help both to prevent the chronification of stress and to cope with the manifestations in the burnout phase are as follows (Osorio, 2018):

–   Plan and prioritize activities
–   Deciding between different study techniques
–   Eating healthy on a regular Schedule
–   Engaging in sports or recreational activities
–   Spending time on hobbies
–   Maintain stable sleep cycles
–   Seek help and share with others
–   Practice relaxation and deep breathing
–   Maintaining a sense of humor
–   Strive to maintain calm and tranquility

When a person suffers stress, in this case academic stress, we can find as already mentioned the stressors, symptoms and coping strategies, however, it is also important to study the alternatives that exist after a person suffers this type of situation, so we will address some of them. Due to the pandemic experienced in the year 2020 and until 2021, there has been an increase in research that relates stress in a general way to the concept of resilience, which we will develop below.

According to Uriarte J. (2005) in his article "Resilience. A new perspective in developmental psychopathology", he mentions that resilience is understood as the process that allows certain individuals to develop normally and in harmony with their environment despite living in a disadvantaged and socioculturally deprived context and despite having experienced conflictive situations since childhood.

Thus, resilience has embedded a different vision in the field of education by relying more on the strength of people and their ability to make positive changes, aimed at the capacity for personal and social adjustment despite developing in an unfavorable context and having had traumatic experiences is what defines the resilient personality.

In other considerations we can contribute that there are studies that refer to strategies to develop skills as an alternative in the management of stress in university students. In the words of Sierra L., Pérez A. and Rodríguez Y. (2017) Stress management skills are defined as a "system of psychic and practical activities, necessary for the conscious regulation of the activity and contents on stress management". The development of these skills should ensure that trainees personalize the values linked to a harmonious and healthy life as part of health education in educational systems, which has an immediate impact on the quality of life at the university level. This proposal indicates that universities would be in charge of designing these strategies to the extent that they recognize the needs of students and teachers, encouraging the observation of stress behavior, the identification and sources of stress and the diagnosis of its level, allowing the application of cognitive and behavioral techniques for stress management, helping to promote and disseminate health education.

In this sense, there is a need to recognize these three elements in the students of TESVG's Bachelor's Degree in Administration in order to implement alternatives for the benefit of the school community. Although, as already mentioned, the SISCO SV Academic Stress Inventory adapted to the context of the crisis by COVID - 19 was used as an instrument for this study, what will provide us with the answers is the factorial analysis with the Stata program.

Methodology

The general objective of this research is to determine the physical, psychological and behavioral reactions, as well as the academic situations that affect the students of the Bachelor's Degree in Administration of the TESVG, and the strategies they use to face them through factorial analysis using the SISCO SV Academic Stress Inventory adapted to the context of the crisis by COVID - 19.

A population of 326 students enrolled in the period September 2020 - February 2021, belonging from the second to the eighth semester, of which 177 students were sampled by stratified random sampling.

Likewise, the research is quantitative, with a non-experimental, cross-sectional design, using as a technique the digital survey, through Google forms, with a Likert-type scale instrument which is the SISCO SV Inventory Adapted to the context of the crisis by COVID - 19 (Bazarra & Silerio, 2007).

It is worth mentioning that, for this study, the demographic variables are not conditional; however, for the application of this instrument they were not evaluated, while the participation of students from the TESVG undergraduate program in Administration was controlled.

On the other hand, for the processing of the information, Stata was used to perform factor analysis, which is mainly used for data reduction purposes. In addition, it allows obtaining a small set of variables (preferably uncorrelated) from a large set of variables (most of which are correlated with each other). To create indexes with variables that measure (conceptually) similar things. There are two types of factor analysis:

- Exploratory It is exploratory when the study has no predefined idea of the structure or how many dimensions there are in a set of variables.
- Confirmatory. It is confirmatory when you want to test specific hypotheses about the structure or number of dimensions underlying a set of variables (i.e., in your data you may think there are two dimensions and you want to verify this). Two types of factor analysis

Exploratory analysis was used in this study, in this sense the main intention of factor analysis is to determine the number and nature of the latent variables or factors that explain the variation and covariation among a set of observed measures, commonly known as indicators.

Results

Once the information obtained from the application of the Academic Stress Inventory SISCO SV Adapted to the context of the crisis by COVID - 19 was processed, the factorial analysis was continued with the Stata program, registering terms in English -which naturally result from the use of this program and which can be observed in that language-, in this sense the data obtained are the following:

Test KMO

Table 7.1 KMO test for all questions. Kaiser-Meyer-Olkin measure of sampling adequacy

Variable / KMO	Variable / KMO	Variable / KMO	Variable / KMO	Variable / KMO	Variable / KMO
p1	0.9454	p9	0.9050	p17	0.8628	p25	0.9433	p33	0.8706	p41	0.9159
p2	0.9077	p10	0.9104	p18	0.8852	p26	0.9295	p34	0.8496	p42	0.8626
p3	0.9177	p11	0.8872	p19	0.8907	p27	0.9271	p35	0.8674	p43	0.8859
p4	0.8884	p12	0.9117	p20	0.9217	p28	0.8975	p36	0.8343	p44	0.8221
p5	0.8574	p13	0.9066	p21	0.8531	p29	0.9333	p37	0.8899	p45	0.8918
p6	0.9214	p14	0.8431	p22	0.8701	p30	0.9396	p38	0.7901	p46	0.9022
p7	0.8966	p15	0.8481	p23	0.8808	p31	0.9357	p39	0.8048	p47	0.8317
p8	0.9031	p16	0.9076	p24	0.8651	p32	0.8987	p40	0.9060	p48	0.4999
					Overall	0.8894

Source: Retrieved from Stata

The KMO test is a measure of the adequacy of the data for factor analysis. The test measures the sampling adequacy for each variable in the model and for the full model. The statistic is a measure of the proportion of variance between the variables in the model and for the full model. The statistic is a measure of proportion of variance between variables that could be common variance. The lower the proportion, the more suitable the data are for factor analysis. The KMO test returns values between 0 and 1. A rule of thumb for interpreting the statistic: KMO values between 0.9 and 1 indicate that the sampling is excellent.

In this study, the following questions were asked: p1, p2, p3, p4, p6, p7, p8, p9, p10, p12, p13, p16, p20, p25, p26, p27, p29, p30, p31, p40, p41and p46; because they presented the highest KMO value.   The complete sample has an average KMO of 0.89 (See Table 7.1).

Three-factor analysis

test scale = mean (unstandardized items)

Cronbach's alpha. Using all questions

Average interitem covariance: 0.7697543
Number of items in the scale: 25
Scale reliability coefficient: **0.9338**

Table 7.2 Correlation in the factor analysis

Factor	Eigenvalue	Difference	Proportion	Cumulative
Factor1	9.68867	7.39199	0.6396	0.6396
Factor2	2.29668	0.42754	0.1516	0.7912
Factor3	1.86913	1.21763	0.1234	0.9146
Factor4	0.65150	0.18315	0.0430	0.9576
Factor5	0.46835	0.10003	0.0309	0.9885
Factor6	0.36833	0.05655	0.0243	1.0128
Factor7	0.31178	0.09899	0.0206	1.0334
Factor8	0.21278	0.05377	0.0140	1.0475
Factor9	0.15902	0.02996	0.0105	1.0580
Factor10	0.12906	0.01452	0.0085	1.0665
Factor11	0.11454	0.02676	0.0076	1.0740
Factor12	0.08778	0.03631	0.0058	1.0798
Factor13	0.05147	0.03789	0.0034	1.0832
Factor14	0.01358	0.01565	0.0009	1.0841
Factor15	-0.00207	0.04153	-0.0001	1.0840
Factor16	-0.04360	0.01782	-0.0029	1.0811
Factor17	-0.06142	0.02226	-0.0041	1.0771
Factor18	-0.08368	0.02319	-0.0055	1.0715
Factor19	-0.10687	0.00963	-0.0071	1.0645
Factor20	-0.11650	0.00942	-0.0077	1.0568
Factor21	-0.12592	0.02356	-0.0083	1.0485
Factor22	-0.14949	0.00827	-0.0099	1.0386
Factor23	-0.15776	0.04658	-0.0104	1.0282
Factor24	-0.20434	0.01837	-0.0135	1.0147
Factor25	-0.22271	---	-0.0147	1.0000
LR test: independent vs. saturated: chi2(300) = 2823.45 Prob>chi2 = 0.0000				

Source: Retrieved from Stata

In the correlation test for factor analysis, the Kaiser-Meyer-Olkin criterion suggests retaining only those factors with Eigen values (principal values) greater than or equal to one, in this study we will retain three factors (factor 1, factor 2 and factor 3 with principal values of 9.7, 2.3 and 1.9, respectively). (See Table 7.2).

Table 7.3 Factor loadings (pattern matrix) and unique variance

Variable	Factor1	Factor2	Factor3	Uniqueness
p1	0.5081	-0.0478	-0.2993	0.6500
p2	0.5584	-0.1259	0.0634	0.6684
p3	0.6612	-0.0887	0.1565	0.5305
p4	0.6568	-0.1648	0.1696	0.5127
p6	0.7414	-0.2604	0.3064	0.2885
p7	0.6522	-0.2263	0.4478	0.3229
p8	0.6756	-0.2242	0.2005	0.4531
p9	0.5973	-0.2383	0.1240	0.5711
p10	0.7736	-0.0733	0.1889	0.3605
p11	0.7955	-0.1973	0.1562	0.3039
p12	0.6324	-0.2263	0.1173	0.5351
p13	0.7059	-0.1566	0.2154	0.4307
p16	0.6674	-0.0472	0.1483	0.5304
p20	0.5702	0.0426	-0.2488	0.6112
p25	0.6748	0.0698	-0.3065	0.4458
p26	0.6585	-0.0340	-0.2596	0.4978
p27	0.7331	0.0999	-0.3933	0.2979
p28	0.6897	0.1535	-0.4458	0.3020
p29	0.6591	0.1291	-0.3806	0.4040
p30	0.6495	0.1566	-0.3247	0.4482
p31	0.5832	0.1555	-0.3397	0.5203
p32	0.3251	0.4156	0.1568	0.6970
p40	0.3173	0.7643	0.2002	0.2751
p41	0.3422	0.7661	0.2818	0.2165
p46	0.3742	0.6668	0.3789	0.2718

Source: Retrieved from Stata

Factor loadings are part of the output of factor analysis, which serves as a data reduction method designed to explain correlations between observed variables using a smaller number of factors. Before running factor analysis, factor loadings should be rotated to obtain a clearer pattern.

Rotation

Table 7.4 Factor analysis by principal components method

Factor	Variance	Difference	Proportion	Cumulative
Factor 1	6.76841	1.19114	0.2603	0.2603
Factor 2	5.57728	2.56340	0.2145	0.4748
Factor 3	3.01388	---	0.1159	**0.5908**
Factor analysis/correlation			Number of obs = 177	
Method: principal-component factors			Retained factors = 3	
Rotation: orthogonal varimax (Horst off)			Number of params = 75	
LR test: independent vs. saturated: chi2(325) = 2945.38			Prob>chi2 = 0.0000	

Source: Retrieved from Stata

The factorial rotation aims to select the simplest and most interpretable solution. In short, it consists of rotating the coordinate axes, which represent the factors, until they are as close as possible to the variables in which they are saturated. Each variable should not be saturated in more than one factor. In Table 7.4, the three factors explain 59% of the total observed variance.

Table 7.5 Rotated factors and communalities. Rotated factor loadings (pattern matrix) and unique variances

Variable	Factor1	Factor2	Factor3	Uniqueness	Comunalidades (1-Uniq)
p1	0.2479	0.5309	0.0398	0.6551	0.34
p2	0.4963	0.2823	0.0553	0.6709	0.33
p3	0.6239	0.2694	0.1207	0.5236	0.48
p4	0.6127	0.2904	0.0796	0.5340	0.47
p6	0.8161	0.2031	0.0595	0.2893	0.71
p7	0.8195	0.0410	0.1299	0.3098	0.69
p8	0.6756	0.2589	0.0579	0.4732	0.53
p9	0.5923	0.2424	0.0054	0.5904	0.41
p10	0.7055	0.3269	0.1836	0.3617	0.64
p11	0.7493	0.3484	0.0837	0.3101	0.69
p12	0.6169	0.2852	0.0028	0.5381	0.47
p13	0.6854	0.2816	0.1170	0.4372	0.56
p16	0.5617	0.3220	0.1798	0.5485	0.45
p20	0.2635	0.5587	0.0804	0.6120	0.35
p25	0.3175	0.6393	0.1147	0.4773	0.52
p26	0.3588	0.5847	0.0502	0.5269	0.47
p27	0.2749	0.8040	0.1189	0.2639	0.74
p28	0.1890	0.8201	0.1395	0.2722	0.73
p29	0.2313	0.7229	0.1326	0.4064	0.60
p30	0.2336	0.6734	0.1666	0.4641	0.54
p31	0.1991	0.6192	0.1571	0.5523	0.45
p32	0.1459	0.1557	0.4740	0.7298	0.27
p40	0.0239	0.1457	0.8436	0.2665	0.73
p41	0.0637	0.1209	0.9104	0.1526	0.85
p46	0.1896	0.0504	0.8190	0.2908	0.71

Source: Retrieved from Stata

Table 7.5 shows the values that the simple variables have in common in relation to all the factors, as well as the percentage of variation of the questions explained by the factors. A relatively high value in the communalities indicates that the variable has much more in common in reference to the other variables taken in the groups. Also, in Table 7.6, it can be observed that question 41 has the highest communality and question 32 the lowest.

Factor 1 is defined by questions 6, 7, 10 and 11. Factor 2 is defined by questions 27, 28 and 29 and factor 3 is defined by questions 40, 41 and 46; because they present the highest values: (0.82, 0.82, 0.71 ,0.75, 0.80, 0.82, 0.72, 0.84, 0.91 and 0.92); respectively.

Factor rotation matrix

Table 7. 6 Factor rotation matrix

	Factor1	Factor2	Factor3
Factor1	0.6959	0.6189	0.3642
Factor2	0.3573	-0.1415	0.9232
Factor3	0.6229	0.7726	0.1227

Source: Retrieved from Stata

Prediction

<p style="text-align:center">**Table 7.7** Scoring coefficients (method = regression; based on varimax rotated factors)</p>

Variable	Factor1	Factor2	Factor3
p1	-0.04148	0.15472	-0.07017
p2	0.07956	0.00634	-0.02334
p3	0.09092	-0.00844	0.01601
p4	0.11673	-0.02875	-0.00942
p6	0.15577	-0.05963	-0.01666
p7	0.18336	-0.11728	0.01817
p8	0.13516	-0.03989	-0.02716
p9	0.10348	-0.00679	-0.05179
p10	0.09959	-0.00741	0.02869
p11	0.11258	-0.00042	-0.02106
p12	0.10784	-0.00761	-0.04707
p13	0.13011	-0.04066	0.00211
p14	0.15719	-0.09598	-0.00780
p16	0.09722	-0.01874	0.02994
p20	0.03091	0.13201	-0.01772
p25	0.04330	0.16088	-0.01594
p26	0.02381	0.14613	-0.04610
p27	0.05289	0.17883	-0.01470
p28	0.07449	0.19316	-0.00552
p29	0.07217	0.18712	-0.00644
p30	0.06050	0.16486	0.01498
p31	0.08070	0.18076	0.00667
p32	0.00377	-0.02692	0.21958
p40	0.05453	-0.00910	0.31586
p41	0.03251	-0.03543	0.32785
p46	0.00450	-0.06966	0.31918

<p style="text-align:center">*Source: Retrieved from Stata*</p>

F1= 0.16 P6 + 0.18 P7 + 0.10 p10 + 0.11 P11

F2= 0.18 P27 + 0.19 P28 + 0.19 P29

F3= 0.32 P40 + 0.32 P41 + 0.32 P46

Acknowledgment

Conclusions

Once the model has been validated and the analysis of the results obtained, we can conclude, according to the factors considered in the Academic Stress Inventory SISCO SV Adapted to the context of the crisis by COVID - 19, the following aspects. In the first place, regarding Factor 1 referring to the Stressors Dimension, those that most affect the students of the Bachelor's Degree in Administration of the TESVG were: p6 (Question 6. The type of work that my professors ask me to do (analysis of readings, projects, essays, conceptual maps, recordings, exercises and problems, internet searches, etc.), p7 (Question 7.)), p7 (Question 7. Being taught by very theoretical professors), p10 (Question 10. The performance of exams, practical or application work) and p11 (Question 11.)

With respect to Factor 2, corresponding to the Symptom Dimension, the factors resulting from the factor analysis that stand out in the students are: p27 (Question 27. Conflicts or tendency to polemicize, contradict, argue or fight), p28 (Question 28. Isolation from others) and p29 (Question 29. Unwillingness to do academic work).

Finally, in Factor 3, Coping Strategies Dimension, the factors obtained correspond to: p40 (Question 40. Evaluate the positive and negative aspects of my proposals in a stressful situation), p41 (Question 41. Maintain control over my emotions so that what stresses me does not affect me) and p46 (Question 46. Surfing the Internet).

In sum, students present academic stress factors typical of student life at a higher level, however, it is not superfluous to consider strategies to reduce the effects of study activities, thus ensuring that their performance is not affected and the interest in studying is limited due to the reluctance shown by students, This aspect obtained as a result in the Inventory, in addition to the fact that a coping strategy they use is surfing the Internet, however, this may be another cause of lack of concentration or reluctance to study or as part of a prediction for further study; In addition, even interpersonal relationships may be affected, due to the tendency to polemicize or isolation that may occur due to stress. However, it could be considered as favorable aspects, that they evaluate the positive and negative aspects of a stressful situation, and maintain control over their emotions, allowing at some point to intervene from the position and interest of the educational institution with a proposal of alternative management of academic stress.

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Chapter 8 Strategic alliances in governance for the resolution of the public problem of citizen security and public security: Analysis of the case of the European Union, Colombia and Mexico

Capítulo 8 Alianzas estratégicas en la gobernanza para la resolución del problema público de seguridad ciudadana y seguridad pública: Análisis del caso de la Unión Europea, Colombia y México

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Abstract

The importance of public governance is analyzed through alliances between public-private actors at the state level to ensure the well-being of citizens through citizen security and public security, by developing a common front through strategies and actions focused on confrontation and combat. of delinquency and criminality. The objective of this study is to highlight the need for the government to reinforce and execute efficient long-term security strategies through the collaborative action with different social actors such as businessmen, universities, students, neighborhood judges and the police.

Sustainability, Governance, Citizen security, Public security, Citizen participation

Resumen

Se analiza la importancia de la gobernanza pública mediante alianzas entre actores público – privados a nivel estado para asegurar el bienestar de los ciudadanos a través de la seguridad ciudadana y la seguridad pública, al desarrollar un frente común mediante estrategias y acciones enfocadas al enfrentamiento y combate de la delincuencia y la criminalidad. El objetivo de este estudio es destacar la necesidad que tiene el gobierno para reforzar y ejecutar estrategias de seguridad eficientes a largo plazo mediante la acción colaborativa con diferentes actores sociales como empresarios, universidades, estudiantes, jueces de barrio y la policía.

Sustentabilidad, Gobernanza, Seguridad ciudadana, Seguridad pública, Participación ciudadana

1. Introduction

At present, most citizens are constantly concerned about various public problems that have not been effectively and definitively solved by governmental agencies, including public safety, citizen security, unemployment, poverty, neglect of the health sector, among others related to sustainability such as public transport and education, and those related to the environment such as pollution, lack of urban planning, drug trafficking, among others. Given the recognition of the problem of violence and crime in any country, region or city, the first question that arises is whether it is only the responsibility of the national and local government, or only the police and justice agencies to solve these problems, or whether organised civil society must also take action to contribute strategies and actions to solve them. The second question asks whether the judicial system and the police are fully capable of solving the public problem of insecurity, or whether, on the contrary, these are complex problems that require the intervention of other types of public-private organisations and actors in order to be solved. Finally, the third question is the institutional and social capacity to achieve this type of alliance and solve these criminal problems (Acero, 2008).

For this type of problems, it is usually assumed that they must be solved by the government at different levels of authority. In view of this, the question arises as to why do we talk about the same problems year after year without seeing a tangible solution to the problems of public safety and citizen security? It is important to recognise that the government is not able to assume full responsibility for addressing all public issues due to a lack of human capital and economic resources, which is why it increasingly requires the support and participation of other private and social agents to present proposals and strategies that can help to resolve each of them (Aguilar, 2007).

In 2003, the United Nations Foundation defined Public-Private Partnerships for Development (PPPD) as "the creation of common agendas and the pooling of resources, risks and benefits. They are voluntary collaborations that build on the respective strengths and competencies of each partner, optimising the allocation of resources and achieving mutually beneficial results in a sustainable manner. They involve interactions that increase resources, scale and impact" (United Nations Foundation, 2003).The need to work on different models of cross-sectoral collaboration is a consequence of three fundamental aspects that have changed the way the institutional environment operates: 1) the large dimension that global challenges have taken on; so large that solutions cannot be assumed by governments and/or international organisations alone, 2) the increasing role, which private initiative and civil society have acquired in the distribution of goods and services, both local and global, and 3) the need to establish new forms of governance in the management of various goods and services, due to the growing power, both political and economic, of new non-state actors (Casado, 2007).

In recent years, PPPDs have shown great interest among development actors, as countless initiatives have been launched in different countries to promote them as a means to achieve sustainable development goals (SDGs) through an effort based on strategic alliances with effective results. The SDGs are unique in that they call on all countries, regardless of their size or economic status, to take action to promote prosperity while protecting the resources that the planet usually provides. They recognise that proposals and strategies to end poverty must go hand in hand with activities that promote economic and human growth by addressing a range of stakeholder needs, including education, health, social protection and employment opportunities, while combating climate change and promoting environmental protection through a range of sustainable development actions. Although the SDGs are not legally binding, governments are expected to adopt them as their own and set national targets for their achievement (United Nations, 2019).

In Mexico, the main objective of the SDGs in terms of governance is to promote the involvement and participation of the private sector, and one of its main achievements is that AMEXCID established the Alliance for Sustainability as a platform for dialogue and action, which includes 80 Mexican and multinational companies operating in Mexico, to exchange information on the integration of the SDGs into business models and design international cooperation projects around the 2030 Agenda, among other actions. The first SDG to be addressed in this research is Goal 16, which refers to Peace, Peace, Justice and Strong Institutions. Among the different types of violence that affect citizen security and integrity, threats of intentional homicide, child assault, human trafficking and sexual violence are important issues that must be addressed in order to create peaceful, healthy and inclusive societies. Such actions undermine access to justice for all and make it impossible to build effective and accountable public and private institutions at all levels. Cases of homicide and human trafficking have seen significant progress in recent years; however, there are still thousands of people at higher risk of intentional homicide in various parts of the world, such as Latin America.

The second SDG to be addressed in this study is Goal 17, which refers to Partnerships to achieve the goals. In order to carry out a successful sustainable development programme, partnerships involving government, private initiative and the different actors belonging to civil society are required. These alliances allow sharing a vision with different principles and values, whose main objective is to prioritise the needs of the planet and the people in their immediate social environment; carrying out local actions that have an impact at a global level.

In addition, it is important to raise awareness among companies of different sizes belonging to the private sector, so that they can direct part of their private resources to actions and strategies included in their annual budget to meet the objectives of sustainable development. Investment in social and environmental responsibility actions are needed in critical sectors, especially in developing countries. These include public safety, citizen security, sustainable energy, infrastructure and transport, as well as information and communication technologies. The review and oversight of the schemes of work, regulations and incentive structures, which enable these investments, must be re-enforced to attract new investments and strengthen sustainable development. National control mechanisms such as supreme audit institutions and oversight functions by legislative bodies must also be strengthened (United Nations, 2019).

When there is a synergy of three main actors, namely government, society and private initiative, public-private partnership schemes are generated, better known as governance, which may have different characteristics in each particular case. These three actors are linked to provide different resources for the resolution of public problems such as citizen security and public safety. There are many needs in the world, which we can see not only globally, but also within our own community. In order to solve these problems, the government has not been left to act individually and independently, but citizens and private initiative through various actions and strategies, have managed to create an optimal partnership with the government, achieving more effective solutions, better quality, with greater impact and solutions that are carried out in a shorter time than in the past.

The objective is to analyse the governance schemes that have been built to address the public problem of citizen security and public safety, through public-private partnerships, in order to review the role of the different actors involved, to assess the relationship between these governance schemes and social responsibility and the paradigm of sustainability, in its social and political dimension.

The methodology to be used is qualitative, using the case study technique and documentary research as an instrument. For an author such as Yin (1994), case studies are a research strategy aimed preferably at answering certain types of questions (the hows and whys). It is a view that underlines the potential of this method to answer questions of a descriptive and explanatory nature (Durán, 2012). The aim is to understand why and how private initiative influences public safety and citizen security indices under the schemes of governance and social responsibility, by analysing under what conditions social actors influence with their active or non-active participation to increase the perception of security. The cases to be studied have been carried out in the European Union, Colombia and Mexico.

2. European Union Case

The European Union is characterised by multilateral governance processes, in a global system, developed within the United Nations, through which solutions are sought to emergencies and collective problems, by means of programmes with social solutions and the creation of public policies. One of the collective problems faced by citizens living in the European Union is the insecurity caused by actions derived from violence (Attinà, 2007). The lack of security, which leads to violence and criminality, is one of the main concerns of the members of society, leading to social and urban problems. In recent years, this public problem has manifested itself in different magnitudes and nuances, generating a network of diversification with strong impacts on society, culture, politics and the economy (Carrión, 2005). European countries are the creators of important changes in the traditional approach to judicial, police and penitentiary institutions. Security, being one of the main concerns of the citizens living in the European Union, was constantly threatened by different types of violence and criminality due to the presence of gangs, assaults, robberies and homicides, among others. These types of social problems are often associated with different social, collective and individual maladjustments that have accompanied the processes of urban development. Such development and modernisation of different cities have presented inherent changes in their organisation, which have been implemented through the updating of public furniture and the transformation of the urban behaviours of different social actors of public and private initiative (Buffat, Lunecke, Marcus, Vanderschueren, 2004).

As a result of preventive and remedial actions to reinforce security fronts, the European Union developed the most representative collective integration processes in the world, as well as the implementation of governance processes. The term governance was born in the 1990s to designate the effectiveness, quality and good orientation of state intervention, which provides much of its legitimacy in what is sometimes defined as a "new way of governing" in the globalisation of the world after the fall of the Berlin Wall (1989) (Rivas, Trujillo and Lambarry, 2015, p.573).

Today, good governance is required to ensure: 1) that the security of citizens and respect for the law are guaranteed, especially through the independence of the judiciary, i.e. the rule of law; 2) that public bodies manage public expenditure correctly and equitably: good administration; 3) that political leaders are accountable to the population for their actions: accountability; 4) that information is available and easily accessible to all citizens: transparency. (Campos, Calderón and Rosas, 2012).

As a consequence of the above, the government has become involved with new actors, which have innovated in the way of interacting and cooperating to guarantee the integrity of citizen security and public safety of citizens, leaving in the past the total responsibility of the government for this social and urban problem, developing a new method of collaborative work, with common objectives and functions, which generate competences belonging to the model of governance for security, which is represented in Table 8.1, (Sotillo, 2017).

Table 8.1 Governance model for security

	Actors involved in collaborative actions		
Tools and Actions to be carried out	**Government**	**Private initiative**	**Leaders or representatives of neighbourhoods and/or communes**
	– Local police – Public policy – Criminal prosecutions – Judicial actions – Crime prevention experience – Consent to participation of new actors in security issues	– Involvement in actions traditionally carried out by the government sector – Contribution of economic resources – Contribution of human capital	– Involvement in actions traditionally carried out by the government sector. – Participation of actors such as neighbourhood leaders, neighbourhood judges, members of universities and citizens in general. – Prioritised detection of the need for new programmes focused on citizen security and public safety at the local level.
	Common Goal: Security		

Source: Own Elaboration, 2021

Government relations with society must give way to a model of social action, in which government should not be just another actor in the network but should aim to bring different sectors into interaction and maximise the contribution that each sector can make. Innovation within security governance revitalises the leadership role of policy makers and the capacity to produce and translate new ideas into actions to solve public problems (Hartley, 2005: 30).

European countries such as the Netherlands, Belgium, France, Spain, Italy and Germany have, over the last thirty years, implemented various strategies to strengthen citizen security and the public safety of their inhabitants, making them ideal cases for learning from the analysis of public-private partnerships in a governance model for security. They have promoted the collaboration of different public and private actors for the planning, development and execution of comprehensive intervention strategies, while carrying out specialised work in public spaces, schools, public transport, as well as coordination, cohesion, social integration of minorities and meeting social demands for the reduction of insecurity.

2.1 Public policies and crime prevention programmes in European Union countries

Belgium, the Netherlands and the United Kingdom have been the first to develop new prevention policies through governments with a strong neo-liberal influence and a policy of re-evaluation of the state responsible for the needs of its welfare citizens. Since the 1980s, they have oriented their criminal policies, using new field instruments and new discourses for crime prevention. In France, the current crime prevention policy differs insofar as it stems from the impulse given at the local level (Buffat, Lunecke, Marcus, Vanderschueren, 2004).

Netherlands

Today, the Netherlands is a country that is characterised as liberal and tolerant, a permissive and attractive destination for tourists, with free access to drugs and prostitution, and a lax penal system. A survey was carried out in 2003, the results of which reveal that 56% of Rotterdam's citizens consider youth groups, drug users, beggars and vagrants to be a major nuisance in the public sphere. They also mention that they display behaviour that becomes aggressive and intimidating, causing a high level of anxiety among the population. As a result, in 2003, the local authority of Rotterdam established a ban on begging (NRC Handelsblad newspaper, 2003).

It was in 1979 that the Netherlands created the National Prevention Bureau within the Police, and it was in the early 1980s that the debate on crime prevention began. Political parties recognised the importance of strengthening links with society, especially youth groups, and developing an action plan to address the social causes of crime (van Swaaningen, 2005). The most prominent activities in the 1980s, starting in 1983 with the work of the Roethof Commission, insisted on the creation of a national prevention policy, the incorporation of civil society representatives in prevention policies, and the need to foster cooperation and coalition at the local level. By 1985, the "Society and Crime" programme, which was part of this approach, had financed almost 200 crime prevention projects at the local level.

The following year, in 1986, the "Five Towns Initiative" was launched under Margaret Thatcher's government. Two years later, in 1988, the Safer Cities Programme was created to fund crime prevention activities at the local level. It marked a turning point in UK policy, encouraging a resurgence of crime prevention policy (Buffat, Lunecke, Marcus, Vanderschueren, 2004).

Government and political parties in the early 1990s began to see the limitations of crime prevention for society, government and the state. Crime was only one cause of the feeling of insecurity; a complete overhaul of urban and social policy was required. It is at this point that the discourse of a comprehensive security policy (uit Beijerse & van Swaaningen, 1993) began, and with it a massive process that was characterised by David Garland (2001) as "the strategy of responsibilisation". In 1991, the Morgan report, which in some ways echoed the Bonnemaison report from France (1982), was recognised as the most important political turning point, highlighting the need for a partnership approach to crime prevention, and pointing out the lack of local prevention policies due to the absence of elected members in monitoring structures.

Seven years later, in 1998, the report's conclusions were rejected by the government. It was important and necessary for the new Labour government to commit itself to a policy by enacting the Crime and Disorder Act, which partly took up the Morgan report's conclusions and introduced two important innovations that have changed the crime prevention landscape. On the one hand, it introduces new Youth Offender Teams (YOTs) to be implemented by each local authority. On the other hand, it stipulates that local authorities and local police (the responsible authorities) must implement a local strategy to reduce crime and "disorder" (Buffat, Lunecke, Marcus, Vanderschueren, 2004).

In 2002, the Community Safety Partnerships (about 375) are based on a crime analysis and the establishment of a local coalition action plan, to be reviewed every three years. A review of the actions implemented shows that the local partners reflect more the orientations defined at the national level (fight against domestic violence, robbery and drug-related crime) than at the local level; certainly because the funding comes largely from the national level, which thus retains the power to decide on priorities.

Adam Crawford has analysed in detail the subsequent "local governance of crime" by calling for citizen participation and the presence of public and private partners. Instead of maintaining an exclusively criminal approach, a multi-agency approach was proposed. Different institutions were invited to take responsibility for the fight against crime on the basis of their specific tasks and competencies. They were also to cooperate more intensively with each other. In the Dutch case, this cooperation mainly involved public institutions, such as the police, social welfare, youth welfare, schools, municipal housing, and especially local authorities, rather than the private sector (van de Bunt & van Swaaningen, 2005). It is in this way that the Netherlands is considered a pioneer in being one of the first countries in the European Union to implement collaborative crime prevention programmes, policies and actions.

Belgium

The Belgian government in 1985 came in for strong criticism of its police apparatus for an increase in crime and violence. It therefore began a national crime prevention policy, starting with the creation of the National Council for Crime Prevention at the national level, and Crime Prevention Commissions at the provincial level. Subsequently, in 1988, a new action programme - known as the Pentecost Plan - was launched. In the early 1990s, it followed the Bourgeois report for the government to encourage the deployment of a crime prevention policy with a greater social and local content. This programme envisaged the establishment of systematic consultation at the provincial and local levels between mayors, public ministers, the three police services (pentagonal consultation) and the local development of crime prevention. Two years later, the Belgian government was once again highly criticised for its institutions and police apparatus, which led it to adopt an Emergency Programme on Societal Problems to ensure public safety by reinforcing prevention and the fight against petty crime. Shortly afterwards, the adoption by the Council of Ministers of a political report on citizen security on 9 June 1992 was followed by the implementation of the Security and Society Contracts, concluded in September 1992 with the country's five main cities and seven municipalities in Brussels (Buffat, Lunecke, Marcus, Vanderschueren, 2004). For the government and all public and private actors involved in the planning, development and control of crime prevention programmes, it is important to consider one of the most important links, which is the administration and control of the fulfilment of the established objectives.

It is because of this that the Security Governance Assessment broadens the scope of the traditional security audit to include a wider range of factors, such as those related to terrorism, corruption, transnational illicit flows, the prevention of violent extremism, and health-centred drug prevention, treatment and care. Such an assessment is based on the recognition that security challenges in cities arise from a complex interplay of risk factors (at local, national and global levels) and that these factors need to be examined together rather than in isolation, as, acting together, these risks greatly increase levels of vulnerability in urban areas (UNODC, 2016).

In 2002, the Permanent Secretariat for Prevention Policy (SPP), a department of the Ministry of the Interior, was created shortly afterwards to monitor and manage local initiatives. These contracts are articulated around a prevention dimension and a policing dimension. The provision of Prevention Contracts (in which the police part had been eliminated) was added by municipalities with minor insecurity problems. The objective proclaimed by these provisions was to help municipalities fight insecurity by subsidising projects implemented by them, and to participate in improving the living conditions of neighbourhoods and their inhabitants. This provision, extended annually by the federal authorities, has been modified several times and unified under the name of Security and Prevention Contracts (Buffat, Lunecke, Marcus, Vanderschueren, 2004).

New challenges of citizen security and public safety arose in Belgium, which was the victim of terrorist attacks at the beginning of 2016. Its government and police structure presents certain fractures with the division between 6 police zones and 19 autonomous mayoralties in Brussels, with coordination problems between them, the 193 local police forces that are distributed throughout the country and that show a very complex federalist structure generating a divided police. A new security governance model will have to be implemented through a process that will have to be accompanied by strategies that go to the roots that motivate this type of extremist phenomena, seeking to modify socio-economic contexts, guarantee basic aspirations and propitiate real processes of social insertion. The participation of private initiative is crucial with financial resources, as it is recognised that Belgium has neither adequate intelligence capacity, nor the technical means to confront the current levels of threats, nor adequate financial resources. Citizen participation is also necessary, by participating in a citizen vigilante programme, as numerically, the officers in charge are outnumbered by the sheer volume of suspects in the country, many of whom would require detailed 24/7 observation and monitoring (Mesa, 2016).

France

France is a country that has acted swiftly in tackling the problem of crime and violence. The French government engaged in the creation of a new policy for the prevention of violence and crime, inspired by principles common to those implemented by the United Kingdom and Belgium in favour of distressed neighbourhoods. The French model for tackling insecurity was based on crime prevention and social cohesion. In France, cultural and social activities, which presuppose an improvement of the quality of life in neighbourhoods, are seen as strategies aimed at prevention. In the early 1980s, since Bonnemaison's report (1982), several local and national initiatives have accompanied these programmes based on public-private partnerships between various professionals and institutions (De Maillard, 2008). Some authors have critically argued that local crime prevention councils were not sufficiently focused on crime prevention, but rather shifted towards the fight against social exclusion, thus promoting an inaccurate approach to prevention (ENA, 1999). In 1983, the Consejos Comunales de Prevención de la Delincuencia (Communal Councils for Crime Prevention) were launched, which are real bodies for consultation and planning of crime prevention programmes at the local level, and which remain to this day, and are the body that monitors policies in the municipalities. Subsequently, in 1988, prevention policy was for a long period the responsibility of a more global policy, the policy of the city, coordinated by a body, the Interministerial Delegation of the City, which has a prevention unit and is now under the authority of the Ministry of the City (Buffat, Lunecke, Marcus, Vanderschueren, 2004).

Crawford (2002: 220), argues that the French model is the opposite of the English model: a broad social approach to crime in France versus a restricted, police-led, situational crime prevention approach in England; experiences based on the role of popularly elected officials in France versus the displacement of local structures of democratic representation in England; the absence of concern for measuring results in France versus the strong emphasis on performance monitoring in England.

The 1990s were marked by a profound transformation of the French security scene, especially with the creation of a specialised body for internal security issues: the Institut des Hautes Etudes de la Sécurité Intérieure. 1995 saw the promulgation of the Law on Security Orientation and Programming, which underlined the importance of the involvement of local authorities in crime prevention measures. Immediately after, in 1996, a number of security-related measures were launched, mainly oriented around the organisation of police forces: reorganisation of the national police force, and in 1997 the French government launched the Local Security Contracts, which are based on a preliminary analysis of criminality and the feeling of insecurity. They comprise two parts, one relating to crime prevention and the other to the coordination of police forces. Finally, in 200, the law on municipal police forces was created, a generalisation of the community policing reform. (Buffat, Lunecke, Marcus, Vanderschueren, 2004).

France is internationally recognised for having promoted a social crime prevention model, often associated with G. Bonnemaison. Today, this model continues to influence the way in which local policies are developed, has come under increasing criticism, and has undergone many changes. The result is more of a mixed model of local strategies, combining social and situational prevention. In this way, it is possible to distinguish different local strategies: those that promote "social peace" and those that promote "public tranquillity" (De Maillard, 2008).

Spain

The Spanish police system has a complex structure, in which the various police institutions compete for a hegemonic position in their areas of competence and geographical positions. The increasing fragmentation of political power in Spain at local, regional and central level underlines this trend. The National Police Corps (CNP) perceives a decline in political-institutional influence vis-à-vis the Guardia Civil, due to the latter's expansion towards urban centres, affecting its privileged access to political decision-making levels. Finally, a lesser threat is the expansion of the responsibilities of the local police in carrying out judicial police functions (Jaime, Folguera, Peñaranda and Torrente, 2019).

The intervention in terms of public policies developed for the reinforcement of citizen security and public safety in Spain is considered a late democratic one, in relation to other European countries. These policies have suffered great tensions at the state level, due to decentralisation and lack of coordination. It is the policies aimed at "greater security" ("sécuritaire") that are implemented and concern by definition actions and strategies carried out by the police. These policies concern primarily the field of terrorism, but also drug addiction and juvenile delinquency. However, there is no development of common strategies (Buffat, Lunecke, Marcus, Vanderschueren, 2004).

There has been no government in Spain with an absolute majority in Parliament since 2015, which is not expected to change in the short term. Between 2015 and 2019 there have been four general elections and two prime ministers. This situation makes it difficult to pass laws, including the fundamental budget, without which no foreign policy commitment can be expected (De Carlos, 2020).

The Spanish government must recognise that the main strategies and projects structuring security must have significant social support, and this will be more effective if it promotes and guarantees citizen participation on a bilateral basis as a guarantee that their main challenges and expectations in the strategies are tempered and as a condition for their social capital-producing social responsibility and involvement (Pascual, 2010). It should also recognise the efforts and results of its neighbouring countries with the new security governance model, to implement programmes with crime prevention strategies, through collaborative actions that are carried out in the governance triangle: government, private initiative and society in general.

Italy

The importance of the role of the government in a social and democratic state governed by the rule of law goes hand in hand with the attribution to the government in various legal systems of the power to issue regulations with the status of law. These, together with the laws created by parliaments, find the same source of legitimacy in the Constitution, which makes it necessary to rethink the relations that were designed between the different branches of government under the prism of the legal rule of law (Balaguer, 1991).

This has led to a great effort on the part of the doctrine to achieve greater precision in the scope of action of what is nothing more than an exception to the general rule of attribution to the legislative power. This situation takes on particular importance in Italy, due in part to the profuse use that has been made of that normative instrument in recent years (Naranjo, 2017).

Italy has pursued similar security strategies in Spain by focusing its security and crime prevention policies on terrorism, organised crime and the fight against juvenile delinquency such as gangs. The development of crime prevention policies has long suffered from a highly accentuated centralised conception of security. In 1981, Law 121 was passed, reforming the statute of the State Police and establishing the prefect as the provincial authority for public security. This same law set up the Provincial Public Security Committees, which bring together, under the authority of the Prefect, the State services in charge of these matters, with the exception of the judicial services.

In 1991, it was not until the election of the mayor by direct universal suffrage in 1991 that a breach was opened in this traditional order, and local elected officials demanded the exercise of real power in crime prevention policies at the local level. One year later, in 1992, the security protocols signed between prefects and municipalities concerning some 60 cities, the first of which was signed in Modena, are the result of this reorganisation of powers and responsibilities for the benefit of locally elected officials. Although they do not organise a transfer of powers, they allow for the coordination of different competencies between mayors and prefects. At the end of the 1990s, an evolution was recognised with the law of 27 July 1999 opening the Provincial Security Committee to the mayor of the capital city of the province and the elected provincial president (Buffat, Lunecke, Marcus, Vanderschueren, 2004).

A final achievement on the part of the Italian government comes after more than fifteen years of expressing the need to pass legislation on citizen security. Citizen security in a broad sense refers to a multidimensional policy to reduce situations of risk (Beck, 2008) and social vulnerability, i.e. it is aimed at reducing the chances of an individual or group being disengaged or blocked from participating in a social sphere in which they consider it appropriate to intervene. Our societies have been characterised as societies of risk and vulnerability due to their intense processes of change, which also occur on a global scale, with greater unpredictability and, therefore, less capacity for anticipation or foresight.

It was on 20 February 2017 that Decree Law number 14, on urgent provisions on citizen security, was finally approved. The new regulation is applicable throughout the country; it is approved as an instrument of cooperation between the State, the regions and the local level; generating an appropriate and necessary governance for the country. This governance is focused on objectives aimed at strengthening citizen security at different territorial levels by carrying out cooperation agreements in this area (Generalitat de Catalunya, 2017).

Germany

For Germany, the federal system naturally orients the construction and implementation of security policies towards each of its sixteen constituent states, which does not favour the homogeneity of crime prevention practices and policies. The reinforcement of strategies to reduce insecurity rates, long considered to be the responsibility of the police, the absence of specialised bodies, and the low level of involvement of local society in prevention have led some to describe Germany as a developing country in terms of public safety and public security. Some states, such as Schleswig-Holstein, followed by Hesse and even Lower Saxony, have been forerunners, implementing Crime Prevention Councils (Krimilnalpräventiveräte), bringing together in particular representatives of the Ministries of Education, Social Affairs and Justice. Since 1995, the prevention scene has changed significantly, the annual German Crime Prevention Day ensures an exchange between prevention actors and brings together almost 2000 local crime prevention councillors and similar bodies (Kommunale Präventionsgremien). The German Forum for Crime Prevention (Deutsches Forum für Kriminalprävention), implemented in 2001, is responsible for developing a common strategy and ensuring cooperation between the Federation, the states and the communes (Buffat, Lunecke, Marcus, Vanderschueren, 2004).

2.2 Security strategies in public policies at the local level

The European Union consists of 27 countries considered to be developed countries, which throughout history have not been exempt from acts of crime and violence, placing their inhabitants in a vulnerable state of insecurity. It is important to understand the extent of the complexity of citizen security and public safety in each of these countries, as each has a different culture, not all speak the same language, and their justice systems and police organisation may have some similar characteristics, but they are not the same. Under this precept, it must be recognised that even if the strategy were easier to carry out, it is not ideal to generate homogenous work plans for security in each of these countries, as it would be difficult to solve the root of the public problem, given that their needs and environments are different.

As we read above in the cases of the Netherlands, Belgium, France, Spain, Italy and Germany, each of these countries has recognised the importance of an action plan and have presented different security strategies from the 1980s to the present, based on their local needs in time and form, with the collaboration of different actors (discussed in point 6 on convergences and divergences), creating the enactment of some laws, launching new public policies and/or carrying out crime prevention action programmes.

The implementation of the common good in the area of security requires the collaboration of actors belonging to the governance triangle (government, private initiative and members of society) to carry out collaborative actions that are not usually carried out jointly. There are various institutional settings where prevention actions can take place: the family, schools and child development centres, municipalities, health centres, police and prosecutor's offices. On the other hand, there are places where violence can occur on a recurrent basis, including residential areas, places where money is transacted, warehouses and other public places used for the sale of drugs (Fuentes, 2004).

There are actions to be considered in the structure of a strategic action plan to reinforce citizen security and public safety, which should be carried out under common priorities, needs and objectives, and which should include the following indicators: 1) innovative in relation to precedents, 2) high degree of benefit and impact on security, 3) a minimum duration of five years, and 4) resolution of problems that are specific to the local level. Many countries such as the Czech Republic (Crime Prevention Committee under the Ministry of the Interior), Denmark (National Council for Crime Prevention, with 80 members) and Belgium (Charleroi Municipal Commission for Prevention and Safety) have implemented instruments allowing for contracts between different public and private actors at different levels of government. Under the name of contract or protocol, they aim to guarantee the continuity of commitments by providing them with a financial basis. These instruments allow for optimal governance with transparent public actions for the general population. There are cities that use more organised structures, such as neighbourhood committees with neighbourhood leaders, to bring about a democratic debate on urban safety. Currently, it is still difficult to identify and formalise the modalities for capturing social demand and turning inhabitants into real "co-producers of security" (Buffat, Lunecke, Marcus, Vanderschueren, 2004).

A collaborative and interactive model between the main actors must take into account: a) The challenges and demands of contemporary development, which makes it possible to face inevitable conflicts with flexibility and confidence in reaching mutually beneficial agreements. b) The correlations of power or balances of power between them. c) Organisational practices that promote respect and mutual knowledge and are oriented towards action on the basis of reciprocal commitments. The pattern of interaction between economic, social and political actors is key to determining the security of a city. The inflexibility of the model and relations between the few leads to mistrust and thus to a lack of medium- and long-term strategy. An open and flexible model favours trust and business and social commitment, which translates into significant economic and social development (Pascual, 2010).

3. Case: Bogotá, Colombia

There are 41 countries located in Latin America, Colombia is geographically located in South America. Latin America is a developing area in the world, as it is in a constant struggle to overcome economic, health, employability, education and human development factors, among others. To a certain extent, these factors are the root cause of situations that break the stability of any country by generating zones of conflict and favouring their permanence.

Regularly, when a situational analysis of Latin American countries with insecurity problems is carried out, it is identified that in most of them it is barely recognised that there is a problem corresponding to the lack of public safety and citizen security and that there is a certain type of lag; there are no political advances or involvement of other areas necessary to face it and solve it adequately. There is still a belief that it is still the responsibility of the government and the police to put criminals in jail. It is important to start by recognising that citizen security and public safety is a complex problem that requires the development of different strategies through the partnership of public and private actors. Faced with these problems, the private sector, in its different sizes and industries, must show its interest in contributing to the solution of the growing violence and crime in the countries of the region, which not only affect the well-being of citizens, but also threaten the economic competitiveness of the most important countries and cities in Latin America, where these problems are mostly concentrated (Acero, 2008).

The rate of violence in homicide rates is very high; at the end of the 1990s, according to the World Health Organisation (2002), at least ten countries in the American continent registered homicide rates higher than the world rate of 8.9 and at least four countries registered homicide rates higher than 20, out of a total of 19 countries, as can be seen in Table 8.2. It is estimated that in Latin America and the Caribbean between 110,000 and 120,000 people die of homicide each year (Concha and Villaveces, 2001). The high average homicide rate for Latin America masks important differences between countries. Guatemala and El Salvador in Central America and Colombia in the Andean region had homicide rates above 50 during the 1980s and 1990s (Buvinic, Morrison and Orlando, 2005).

Table 8.2 Homicide rate index for the Americas.

Homicide rates (per 100,000 inhabitants) in the americas, comparison between countries and with global homicide rate			
	End of 1970s Beginning of 1980s a	End of 1980s Beginning of 1990s a	Med. Fin 1990s b
Central America			
Guatemala		150	..
El Salvador		138.2	55.6
Nicaragua		18.3	8.4
Honduras		9.4	..
Costa Rica	5.7	5.6	5.4
Panama	2.1	10.9	10.9
Andean Countries			
Colombia	20.5	89.5	61.6
Venezuela	11.7	15.2	16.0
Peru	2.4	11.5	..
Ecuador	6.4	10.3	15.3
Brazil And Guianas			
Brazil	11.5	19.7	23.0
Guyana			6.6
Caribbean			
Cuba			6.2
Puerto Rico			20.6
Trinidad And Tobago	2.1	12.6	12.1
Dominican Republic		11.9	
Jamaica		35.0	
North America			
Mexico	18.2	17.8	15.9
Canada		2.2	
United States	10.7	10.1	6.3 (c)
Southern Cone			
Argentina	3.9	4.8	4.7
Uruguay	2.6	4.4	4.4
Paraguay	5.1	4.0	12.3
Chile	2.6	3.0	3.0
World Level (D)	5.5	6.4	8.9

Source: a) Pan American Health Organization (1997). b) World Health Organization (2002). c) US Department of Justice, Bureau of Justice Statistics (2000). d) Buvinic and Morrison (2000) (Living in a More Violent World)

Note: the rates for each country are for a specific year within the period indicated and the same year is not available for all countries.

It is common for the inhabitants of Latin America, especially in urban areas, to live with a constant and permanent feeling of insecurity. This feeling is reflected in public opinion surveys such as those of Latinobarómetro (Latinobarómetro, 2002), in which crime appears as one of the most important problems in each country, along with unemployment, inflation, poverty and corruption.

There are significant challenges to achieving an environment of peace and tranquillity in Colombia, and security sector reform (SSR) has been one of the most sensitive, controversial and least discussed aspects. There have been changes in the roles of the armed forces, their adaptation to new dynamics posed by post-conflict, the need to incorporate actions to build control of citizen security and public safety into public spending, and to reduce military personnel. The urgency of creating an optimal environment for dialogue and coordination between different sectors of society on the future of the country's security sector is recognised. High priority is given to objectives that ensure citizen security, with actions that include the fight against organised crime, bilateral international cooperation, participation in multilateral peace operations and programmes, and the refocusing of military resources towards purely security actions (especially local actions) (FES, 2019).

3.1 Social capital: a necessary coordination between the state and the private sector

Social capital, which is largely reflected in the various forms of citizen organisation, is an important element in improving levels of coexistence, social cohesion and citizen security. A society that presents a high level of organisation within and outside its community, in broad organisational networks, is a society that is less susceptible to violence and delinquency, as it is able to resolve these problems by acting collectively (Cuellar, 2000).

There are recent findings on the economic development of prosperous societies in first world countries, in which violence does not occur to the same extent or nature that we can recognise in Latin American countries, as they show that this development is proportional to the existing social capital. This means that the most developed countries have a high degree of social capital and, consequently, a low level of violence. Social capital is in itself incompatible with violence, as it leads organised communities to act together in a continuous search for the improvement of conditions of healthy coexistence and solid and permanent security. Given this evidence, it is necessary and opportune to think about implementing a public strategy of associated and coordinated work between the state and the private sector, which identifies, produces and strengthens preventive, dissuasive and coercive factors against the problems of violence, crime and delinquency, in order to improve the levels of coexistence, citizen security and public safety (Acero, 2008).

3.2 A call for social cohesion, incorporating the analysis of certain characteristics of private initiative collaboration

Under the clear recognition of the government's lack of capacity to solve each of the public problems that society presents, it is necessary to develop comprehensive actions, ranging from deterrence and prevention to the legitimate use of force by state institutions; through the collective and coordinated intervention of the public and private sectors, it is possible to obtain important and lasting results. In order to achieve the desired and necessary change in security issues in Colombia, institutional actors are required to restructure their roles and responsibilities, accepting responsibility with new actions that involve them in issues that were previously exclusive to the government, the police and the judicial system (Carrión, 2005).

3.3 Social Responsibility in actions carried out by the Private Initiative

The actions that are carried out jointly and integrally through the triangle of governance (government, private initiative and society) improve the conditions of coexistence, reinforcing citizen security and public safety, making it necessary and opportune to execute a strategy of collective, coordinated and complementary work among the actors involved, which identifies, produces and strengthens public policies to confront violence and delinquency. There are minimum criteria that should govern the participation and coordination between the state and private initiative, such as: solidarity, realism, opportunities, regularity, propositional character, argumentative character, transparency, relevance and efficiency.

The participation of private initiative actors was categorised in three ways: indirectly through the payment of taxes; sporadically, by demanding security when criminal actions affect their economy; and finally, permanently and qualified, when they organise and create bodies or organisations that analyse, reflect on and propose security programmes and projects to governments; they also monitor the actions developed by states in this area (Acero, 2008).

The programme implemented in 1998 in the city of Bogotá in Colombia called "Bogotá Cómo Vamos", has provided an important experience in the field of permanent and qualified participation, which was born as a citizen initiative of the newspaper El Tiempo, the Corona Foundation, the Chamber of Commerce of Bogotá (grouping all the economic guilds of the city) and the FES Leadership Institute, to evaluate the quality of life of the city, through permanent measurements of the results of the city's performance, the Bogotá Chamber of Commerce (which brings together all the city's economic associations) and the FES Leadership Institute, to evaluate the city's quality of life through permanent measurements of the results of government management and citizens' perceptions of those managements and their results in terms of well-being (Bogotá Cómo Vamos, 2000).

The most relevant learning from this programme is that it provides a qualified perspective in the field of security, with diagnoses and measurements carried out, evaluated and presented by experts. Analytical and proactive communication was developed when presenting their studies, proposing alternative solutions to the problems detected. Collective strategies were proposed that complement the analysis and definition of public security policies, with the important participation of citizens, managing to focus on those places considered by them as unsafe and conflictive, managing to detect the hidden figure of crime through victimisation surveys, among other issues.

4. Tijuana Case, Mexico

Mexico has also been a country riddled with violence, crime and delinquency over the last 10 to 12 years, which has forced the government authorities, in collaboration with new actors, to act in an agile, rapid and efficient manner in the search for the recovery of its territory, in order to avoid an irreversible crisis that includes three main axes: economy, security and sustainability. In this way, Mexico has also been the scene of success stories in the birth of a new model of governance for security. The first case to analyse in Mexico is that of the city of Tijuana, whose geographical location as a border city has made it a key transit point for goods, people and drugs. This territory is strategic for criminal organisations involved in the illegal drug trade because of its access to the US market. Violence levels were unprecedented in the city, with the rate of intentional homicide doubling between 2006 and 2007. Tijuana became the most dangerous city in Mexico and came to be compared to cities like Baghdad. Tijuana has experienced a reduction in intentional homicides and crime incidence; the number of intentional homicides decreased from 1082 in 2010 to 826 in 2012. The favourable results in the Tijuana peace process have to do with citizen protest, the implementation of the federal strategy of Operativo Tijuana, the coordination between the different levels of government, the commitment or political will demonstrated by actors such as Governor Osuna, Lieutenant Colonel Leyzaola and Generals Aponte and Duarte, as well as the leadership and involvement of the private sector.

The success of the process in Tijuana is largely due to the leadership taken by Tijuana's business sector in demanding the attention of the authorities, both local and federal, in the face of the escalating violence in the city. The constant pressure and participation of Tijuana's industrial sector in meetings and security roundtables with the different authorities, creating strong public-private alliances, ensured that the fight against insecurity in the city enjoyed a certain legitimacy among Tijuana's citizens (CIDAC).

5. Fuerza Civil Case in Nuevo León, Mexico

The second Mexican case to be analysed is that of the state of Nuevo León, with the birth of the Fuerza Civil (Civil Force). During the years 2009 to 2011, the crisis of governance in Nuevo León was very visible; a period in which Rodrigo Medina served as governor of the state (2009 - 2015). During this period, organised crime had the capacity to violently subdue the authorities of rural municipalities, assassinating public officials, police officers and innocent citizens, seriously affecting the state's economic activity.

The state of Nuevo León had not been an important space for organised crime; it was considered a financial centre for criminal organisations and a place where the leaders of different organisations could reside without attacking each other, as Astorga (2007 and 2015), Valdés (2013), Ravelo and Salas (2006) and Campos (2012), among others, have shown in their research; Consequently, it has been a peaceful space, only altered by infrequent violent events associated with conflicts between criminal organisations that have their greatest expression in the neighbouring state of Tamaulipas, due to the fact that the three main borders of northeastern Mexico with the United States are located in that state.

There were different demands from different social actors in the state towards the government, the police and its judicial system, which led to the creation of an Alliance for Security in early 2011, where the participation of businessmen, universities and representatives of civil society was integrated in the reconfiguration of security control actions, which had always been managed and controlled exclusively by the government, excluding the participation of citizens (Montero, 2013, p. 228).

New security actions and strategies were developed, presenting the development of a new police model to guarantee citizen security and a new form of relationship between society and government. This process allowed for the creation of new governance relations in the security policy network, moving from monopolies or iron triangles to broader networks with the participation of diverse actors; the result involved the creation of the new state police force Fuerza Civil, whose design involved universities and the local business sector, configuring the traditional triple helix for innovation (Montero, 2017).

Confronting, combating and controlling organised crime requires the development of strong police institutions at the local level. In the face of emergencies of violence in the states, which have required subsidiary assistance from the federal government, it is essential to remember that the federal government's presence is not permanent and, consequently, requires states to develop their own police institutions to assume responsibility for security once the federal government must withdraw, which is an additional lesson from the case of Nuevo León.

6. Results

Around the world, for many years now, there have been several cases of citizen insecurity and public insecurity, which have been addressed either by government, government and business, or in a governance model involving government, business and local representatives. Several cases of countries in the European Union, Colombia and the city of Tijuana and the State of Nuevo León in Mexico were mentioned previously; among which they have worked under different objectives, implementing different instruments to control and reduce the level of insecurity.

In Mexico, through the cases of Tijuana as a border zone and Fuerza Civil in the State of Nuevo León, it was possible to observe the need for joint work that makes up the triangle of governance (government, private initiative, social actors) in order to achieve a common front and thus maximise the level of citizen security and public safety.

In Tijuana, in a period of two years, from 2010 to 2012, the number of intentional homicides was reduced by 23%; on the other hand, Nuevo León was able to innovate both in processes and in new institutions to ensure public safety and citizen security for its inhabitants, leaving as a lesson the importance of replicating these programmes for the rest of the country to ensure the well-being of all Mexicans.

In Table 8.3 below, we will analyse the convergences and divergences of each of the cases, which will allow us to later relate them to the case study of this research.

Table 8.3 Security strategies and public policies in the European Union, Colombia and Mexico

Country	Instrument	Involved	Programmes
Netherlands	Prevention policy through the National Prevention Office	- Government - Police - Civil society representatives	"Society and Crime" in 1985
United Kingdom	Funding crime prevention activities at the local level	- Government - Private sector - Local community	"Five Cities Initiative" in 1986 "Safer Cities" in 1988
Belgium	National crime prevention policy through the National Council for Crime Prevention and Crime Prevention Commissions. Project grants in different municipalities to reduce insecurity.	- Government - Police - Local community	"Pentecost Plan" in 1988 "Permanent Secretariat of the Prevention Policy (SPP)" in 1992 "Safety and Prevention Contracts" in 2002
France	Report "Confronting crime: prevention, repression and solidarity". Organisation of the police forces and reorganisation of the national police force in 1996	- Government - Local police	Launch of the Communal Councils for Crime Prevention in 1983. Creation of the Institute for Advanced Security Studies in 1991. Promulgation of the Law on Security Planning and Programming in 1995. Local Security Contracts in 2002
Spain	Policies that primarily concern the field of terrorism, drug addiction and juvenile delinquency.	- Government - Police	
Italy	Security and crime prevention policies on terrorism, organised crime and juvenile delinquency	- Government - Local elected officials	"Provincial Public Security Committees
Germany	Building and implementing security policies	- Government - Local members	"Crime Prevention Councils" bringing together Ministries of Education, Social Affairs and Justice in 1995. "German Forum for Crime Prevention in 2001.
Denmark	245 local councils in the country that work on criminogenic factors from childhood and adolescence.	- Government - Doctors - Police - Teachers - Social workers - Lawyers - Sociologists	"National Council for Crime Prevention" with 80 members representing public and private organisations.
Colombia (Bogotá)	Public policies to tackle violence and crime	- Government - Private Sector - Community	Development of the "Bogotá Cómo Vamos" Programme in 1998
Mexico (Tijuana)	Dialogue tables between the government and the private sector on economic and security issues.	- Government - Military - Private Initiative - Members of society	Operation Tijuana in 2009
Mexico (Monterrey)	Establishment of a Security Alliance in early 2011	– Federal Government – Private Initiative – Universities – Civil society representatives	Creation of Fuerza Civil in 2011

Source: own elaboration with information obtained from Políticas de seguridad ciudadana en Europa y América Latina (2004)

6.1 Convergences in security strategies

The implementation of the common good - which is security - requires the cohabitation of services that are not used to working together or consider that they have a certain authority over the others: police, justice, municipal services, charitable and religious organisations, private security organisations, residents, etc.

The constitution of the partnership is based on a number of common tools, such as the elaboration of a common diagnosis for all participants and, if possible, in consultation with the inhabitants. The establishment of an action plan with implementation agendas is another tool, along with evaluation indicators (Buffat, Lunecke, Marcus, Vanderschueren, 2004).

According to Table 8.3, it can be seen that each of the countries has implemented different programmes, committees and councils to increase the level of citizen security and public safety. Likewise, new laws have been enacted and new public policies have been approved, for which one of the most successful factors of these strategies has been to convene nationally, creating models that allow for the implementation of different local formal practices, collaborating with what we know as neighbourhood police and representatives of the different communities. Finally, social responsibility on the part of the private initiative through its owners and/or shareholders has allowed them to develop successful collaborative actions with society and the government.

6.2 Divergences in security strategies

Likewise, as mentioned in the previous point, the main divergences that we can observe are with the countries belonging to the European Union, which began to elaborate security strategies in the 1980s in the launching of public policies to strengthen citizen security and public safety, with the main actors being the government at different levels, the police at different levels and local representatives.

In the cases of Colombia and Mexico, we can observe that they are more recent, which reminds us that the birth of governance is also recent. In these cases, we can see actors that involve private initiative playing an important role in the solution of the public problem of insecurity, providing economic investment, human capital investment and, above all, strong pressure on the government to increase security indicators.

Numerous countries have implemented different instruments, allowing for contracts between different partners and different levels of government. Under the name of contract or protocol, they aim to guarantee the continuity of commitments by providing them with a financial basis. These instruments give visibility to the local coalition, which can justify its actions in the eyes of the population through evaluation (Buffat, Lunecke, Marcus, Vanderschueren, 2004).

7. Conclusions

Citizen security and public safety require the involvement of new actors when security is considered a social right and the prevention of crime and violence is understood to be a priority way to guarantee this right, not only the possibilities for action are broadened, but also the range of sectors responsible for promoting citizen security. Clearly, the main body responsible for promoting citizen security continues to be the public authorities. Private initiative, through the possibility of managing additional economic capital to invest in new public programmes, allows it to become an important actor in achieving this task. In the same way, the involvement of society through its leaders and mediators allows the government and the business sector to be the voice of society in general by sharing their needs and priorities.

In addition, programmes should be included that not only guarantee the reduction of security rates, but also allow citizens in general to feel safe when carrying out their daily activities in their personal, family, educational and work lives.

What we can conclude from this chapter is that the success stories in Europe, Colombia and Mexico have been developed by achieving a balance between the common objectives of the governance triangle, allowing for good governance, with strategies that have made it possible to address the different social problems by prioritising them at the local level, and in the same way have acted locally with the main leaders or representatives of the different sectors of the community, the police and the private initiative.

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Chapter 9 Correlation between attitude and physical activity levels in gym users at a private University

Capítulo 9 Relación entre actitud y niveles de actividad física de los usuarios de un gimnasio en una Universidad privada

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Abstract

Currently, only 42% of the adult population in Mexico takes part in physical activity during their free time. Among the relevant social determinants in this regard, the figure of a fitness instructor stands out. Objective: to analyze the relationship between attitudes toward fitness instructors and their users' levels of physical activity. Sample: 259 users of the gym, selected in a non-probabilistic way. Method: Two scales applied to measure attitudes towards the fitness instructors; users classified as ACTIVE or NON-ACTIVE according to the hours of physical activity performed per week; the correlation analysis between attitude and level of physical activity performed through the correlation method for the Product Moment interval scale and a linear regression analysis was also performed. Results and conclusions: There is a correlation level of .888 between users' attitudes toward the instructor and their physical activity levels, which confirms that the instructor is an important factor in promoting health through physical activity.

Correlation, Attitudes, Physical activity, Fitness instructor

Resumen

Actualmente en México, solo el 42% de la población adulta practica actividad física en su tiempo libre. Entre los determinantes sociales relevantes al respecto, destaca la figura del instructor de fitness. Objetivo: Analizar la relación entre la actitud hacia los instructores de fitness y los niveles de actividad física de los usuarios de un gimnasio. Muestra: 259 usuarios del gimnasio, seleccionados de forma no probabilística. Método: se usaron dos escalas para medir las actitudes hacia los instructores de fitness. Los usuarios fueron clasificados como ACTIVOS o NO ACTIVOS según las horas de actividad física por semana. El análisis entre actitud y nivel de actividad física fue a través del método de correlación para la escala de intervalo Producto Momento y un análisis de regresión lineal. Resultados y conclusiones: existe un nivel de correlación de .888 entre las actitudes del usuario hacia el instructor y sus niveles de actividad física, lo cual confirma que el instructor es un factor importante en la promoción de la salud a través de la actividad física.

Correlación, Actitud, Actividad física, Instructor fitness

1 Introduction

There is a great amount of evidence that refers to the importance and benefits of regular physical activity on the health of people of all age groups. The most recent guidelines published by the World Health Organization (WHO) recommend a weekly practice of at least 150 to 300 minutes of aerobic physical activity of moderate or vigorous intensity for all adults. However, despite the benefits for people in terms of cardiovascular, musculoskeletal, psychological and functional health, among many others, today only one out of every four adults engages in some type of physical activity. This results in significant health-related effects that entail a high economic cost in direct health care and a decrease in the productivity of the labor force (WHO, 2021). In Mexico, according to data from the 2018 Census Bureau (Instituto Nacional de Estadística y Geografía [INEGI]), 34.2% of males and 54.4% of females are physically inactive within the young adults population between the ages of 18 and 24.

There are many complex factors that influence the regular practice of physical activity; however, the figure of fitness instructors stands out among them. According to some authors, they are authentic leaders and promoters of health, capable of influencing not only the initiation of physical activity practice but also its permanence (De Lyon et al., 2017; Puente y Anshell, 2010; Joseph Polyte et al., 2015). For this reason, there has been a growing interest in recent years in knowing how and in what way aspects such as their procedures, didactic resources, technical knowledge and leadership skills influence people and their permanence in physical activity.

In a study conducted with university students about instructors' interaction styles, it was found that when the instructor's style supports the autonomy and competence of the participant in the activity, feelings of enjoyment are boosted, which in turn generates an increase in the practice of physical exercise. This confirms what has been proposed by authors such as Joseph Polyte et al. (2015), in the sense that the instructor's style can influence the participant's attitude towards physical activity and therefore their adherence to it.

In this same sense, Joseph Polyte et al. (2015) refer to the fact that studies and research should focus on the figure of the educator or leader of the exercise, supporting the positive experiences that can be generated in the participants, who, being surrounded by a positive and quality social environment, will see their involvement and well-being favored during the activity—contrary to what happens in a controlling environment. (p. 58).This is in addition to what has been stated by authors such as Puigarnau et al. (2016) and Edmunds et al. (2007) who affirm that the performance of these instructors influences the satisfaction of basic psychological needs, which will result in the improvement in the constancy and permanence in people's physical activity. In addition to the aforementioned, and for the specific case of a university population, the performance of these exercise professionals is also related to greater adherence to physical activity (Salgado-Núñez et al., 2020). In other words, it can be said that the way a fitness instructor conducts and acts "impacts on cognitive, affective and behavioral aspects of the user, which are relevant to the practice of physical activity, its constancy and possible adherence to it; i.e., it marks the user's attitude" (Salgado-Núñez et al, 2020, p. 280).

When speaking of attitude, the definition that Edwards (2009) provides is considered: "the degree of positive or negative affect associated with a psychological object" (p. 2). This psychological object can be any object, person, situation or symbol, with respect to which a person may have favorable or unfavorable feelings, of liking or disliking.

Knowing the attitude that fitness instructors generate in the people they serve allows one to identify important aspects such as areas of opportunity and improvement in this professional. However, it is necessary to go a step further and know objectively how it impacts on the physical practice of the users of their services and how this feeling generated is reflected in relevant aspects for their health, such as the amount of physical activity they practice, since this is ultimately the main objective of the work of fitness instructors as health promoters, and in this specific case, in a university context.

1.1 Physical Activity and benefits of Health

According to WHO (2021), physical activity is defined as "any bodily movement produced by skeletal muscles that requires the expenditure of energy". The term "exercise," according to the American College of Sports Medicine (ACSM), refers to repetitive, planned and structured activities with a specific purpose that may be related to improvements in physical abilities, self-image, or the attainment and enhancement of a sense of personal well-being.

The ACSM and the American Heart Association (AHA) recommend, as of 2007, that all adults aged 18-65 years perform moderate-intensity aerobic physical activity for a minimum of 30 minutes, five times per week, or 20 minutes of vigorous-intensity aerobic physical activity at least 3 times per week, in addition to the integration of activities aimed at improving muscular strength and endurance twice a week. They note that the benefits will be greater if the minimum volume of this recommendation is increased (ACSM, 2014).

On the other hand, the current WHO recommendation for adults between 18 and 64 years of age reads as follows:

−   Should engage in moderate aerobic physical activity for at least 150 to 300 minutes.

−   Should participate in intense aerobic physical activities for at least 75 to 150 minutes; or an equivalent combination of moderate and intense activities throughout the week.

−   Should also engage in moderate to more intense muscle-strengthening activities that exercise all major muscle groups for two or more days a week, as such activities provide additional health benefits.

−   Can extend moderate aerobic physical activity beyond 300 minutes or engage in intense aerobic physical activity for more than 150 minutes or participate in an equivalent combination of moderate and intense activities throughout the week for additional health benefits.

– Should limit the time spent in sedentary activities; replacing time spent in sedentary activities with physical activities of any intensity (including low intensity) is beneficial to health.

– Should try to increase their moderate physical activity to a vigorous one above the recommended level, especially all adults and older adults, to help reduce the detrimental health effects of more sedentary behaviors.

Nowadays, the great benefits that physical activity brings people who practice it is known, as well as the important aspects they encompass in terms of health and physiological, psychological and social well-being. ACSM (2014) places the benefits into four groups: improved cardiovascular function; reduced risk of coronary heart disease; reduced mortality and morbidity; and psychological, functional and independence benefits.

1.2 Social Determinants of Physical Activity

According to various research studies, the practice of physical activity can be favored or affected depending on various factors that include biological, social and economic aspects. As stated by Flores et al. (2009), the practice of physical activity can be affected by variables that influence aspects such as the attendance and permanence of the people who attend. They allude to studies which confirm that multiple aspects, including biological, psychological, environmental and social factors, have been confirmed as influencing exercise and health. These can therefore be considered starting points for the promotion of healthy lifestyles and can be grouped into three parts: (1) Personal factors, referring to the physical characteristics that are inherent to each individual: height, race, age, sex, marital status, genetic factors and psychological aspects.

In relation to the latter, according to Hernandez (2014) "when you move, you not only bring into play your neuromuscular capacity, but you also express your personality, previous experiences, values, previous judgments, personal history and present state of mind" (p.71), so it can be said that aspects such as the motivation and attitudes of individuals influence the way in which physical activity is faced and experienced. (2) Environmental factors, such as man-made and natural environments, accessibility to sports facilities and parks, and safety, among others. Finally, (3) social factors: There is ample evidence that supports the relevance of social factors as an important determinant in the practice of physical activity and exercise. There are several authors who speak of these aspects as determinants for the change of behavior and attitudes or beliefs in people—in this case, in terms of physical activity. Social support according to age, group versus individual context, and the atmosphere in which the activity takes place are all elements that affect the initiation of physical activity and its permanence in it (Burke et al., 2006; Gammage & Lamarche, 2014).

Gammage and Lamarche (2014) expose and highlight that the fitness instructor can be a key element in the context of exercise, that social support is relevant to self-efficacy in people and that this in turn impacts the amount of physical activity.

One of the most consistent findings in the literature is that social support does not directly affect physical activity levels, but that self-efficacy mediates the relationship between social support and physical activity; that is, social support increases self-efficacy, which leads to higher levels of physical activity. (p. 125)

Therefore, the union of both aspects causes one to observe, again, the relevance of the role of instructors as an authentic promoter of health through their work.

1.3 Determining Factors in University Students

Specifically for the university population, some factors are accentuated. Age and sex, academic workloads and psychological aspects such as "self-concept" affect the involvement of students in sports and recreational activities. In relation to psychological aspects, authors such as Olmedilla et al. (2016) refer to the fact that the most active students present a better self-concept of themselves.

Regarding the influential social factors in this population, social support from peers and exercise leaders (e.g., fitness instructors) is associated with higher rates of adherence to physical activity. This is due to higher levels of comfort, enjoyment, concentration and lower levels of negative emotions of the participant in the physical activity and exercise session.

1.4 The Fitness Instructor as an Influencing Factor in the Practice of Physical Activity

When talking about fitness instructors, one refers to the trainers and instructors who instruct, advise and motivate individuals or groups of different ages and fitness levels for the development of physical activity with different objectives through the implementation of exercise sessions composed of cardiovascular segments, muscle strengthening and/or flexibility. Their importance lies in the influence on motivation and attitudes generated in users, both in group classes and personal training and how this ultimately impacts relevant aspects of their health.

De Lyon et al. (2017) in their paper, "The Role of Fitness Professionals in Public Health: A Review of the Literature," say that the fitness instructors' performance is so relevant that they could represent, "a key piece in the war against obesity and inactive lifestyles" (p. 314). In this same work, the authors also state that the performance of instructors as promoters of physical activity influences health aspects including higher levels of physical activity and adherence to it.

Melton et al. (2008), in their paper, "The Current State of Personal Training: An Industry Perspective of Personal Trainers in a Small Southeast Community," state that one of the consistent findings in the literature on the topic of exercise adherence is the influence of exercise leaders and how their actions impact participant self-efficacy.

1.5 Attitudes

Attitude occupies an important place in the practice and promotion of physical activity. Pérez-Samaniego et al. (2010) state that the term "attitude" is considered a "positive or negative psychological predisposition that subjects construct by globally valuing the object of the attitude and the consequences that it could have for them" (p. 286). Attitude is considered to be positive if the tendency to a positive evaluation predominates, and negative if the tendency is the opposite, i.e., to a negative evaluation (good-bad, pleasant-unpleasant).

According to Edwards, (2009, p.2), attitude is "the degree of positive or negative affect associated with a psychological object," the latter being understood as any object, person, situation, symbol, or idea with respect to which a person may have a positive or negative feeling of liking or disliking. "An individual who has associated a positive affection or a positive feeling with a psychological object is said to like the object or to have a favorable attitude toward the object" (Edwards, 2009, p. 2). On the contrary, a negative affect will be related to an unfavorable attitude toward the psychological object; that is, to present dislike toward it. Being that attitude is susceptible to be measured by scales, this allows one to place the individual in categories of favorable, unfavorable or undecided attitude, and to do so by defining the degree of intensity of the feeling with respect to the psychological object in question (Edwards, 2009; Thurstone, 1928).

In light of the aforementioned, taking into consideration the importance of physical activity in terms of health and the fact that, in a university context, the fitness instructor could be one of the most influential determinants in the regular practice by university students, the general objective of this study is to analyze the relationship between the attitude toward the fitness instructor and the levels of physical activity of the users who attend ITESO University's gymnasium in Guadalajara, Jalisco, Mexico. In order to achieve the general objective, the following specific objectives are established: (a) to evaluate the attitude of the users towards the fitness instructors at the ITESO Physical Activity Dome through the Attitude Toward Fitness Instructors Questionnaire (CA-ICF) and Attitude Toward Strength Instructors Questionnaire (CA-IF) instruments, and (b) to evaluate the level of physical activity of the users of the ITESO Physical Activity Dome.

For the purposes of this paper, the following terminology will be used:

Fitness Instructor: term used to refer indistinctly to both the instructors in charge of providing group training sessions called physical classes and the personal trainers in charge of attending to users in the strength and cardiovascular area.

Users: university students, graduates, employees and members of the community who attend the Physical Activity Dome for physical and/or strength and cardiovascular classes indistinctly.

Physical Activity Level: number of hours of physical activity performed by users in the ITESO Physical Activity Dome obtained from the "EFSI Access System" database, which details the accesses registered by each user; according to the number of hours accumulated, they are classified as Active or Low Active. This classification is based on the WHO minimum recommendation of 150 minutes of moderate intensity physical activity per week, due to its beneficial effects in terms of health and prevention of non-communicable diseases. Active users are considered those who do, on average, 2.5 hours or more per week and Low Active ones are those who, on average, do less than 2.5 hours per week in the 16 weeks of the fall 2017 academic semester.

Attitude: positive or negative evaluation of users toward fitness instructors.

2. Methodology

2.1 Research Design

The present study is descriptive correlational study because no variables are being manipulated. It is about observing the phenomenon in its natural context, collecting data at a single moment, in a single time with the objective of describing the variables of users' attitude toward fitness instructors of the Physical Activity Dome and their levels of physical activity, in addition to evaluating the relationship between these variables (Hernández et al., 2014).

Population

The total sample consisted of 259 people, of which 158 (61%) were female and 101 (39%) were male—all of them users of the Physical Activity Dome at ITESO University. The age range of the participants was between 18 and 62 years old. Of the total sample, the CA-IFC questionnaire was applied to 150 users (107 women and 43 men) of the physical classes area. The CA-IF questionnaire was applied to 109 users (51 women and 58 men) of the strength and cardiovascular area.

2.2 Selection Criteria

The participants were chosen in a non-probabilistic way with the following criteria: (1) They had to be a user of the Physical Activity Dome, and (2) they had just completed a physical class session (regardless of the modality) or exercise in the strength and/or cardiovascular area.
The methodological part of this research was carried out in three stages:

2.3 Application of Instruments to Measure Attitudes

According to the selection criteria described above, the instruments were applied to the 259 participants in the sample: the CA-ICF questionnaire was applied to 150 users of the physical classes area and the CA-IF questionnaire to 109 users of the strength and cardiovascular area. The participants in both applications were chosen in a non-probabilistic way under the same criteria used in the pilot application of the instruments: (1) Being a user of the Physical Activity Dome. (2) According to the instrument to be applied: CA-ICF questionnaire, for those who had just completed a session of physical classes; CA-IF questionnaire, for those who had just completed an exercise session, based on a physical work program prepared by one of the instructors of the strength and cardiovascular area.

The results obtained from the application of both instruments were entered into an Excel database and processed to obtain statistical data in the SPSS Statistics 25 software.

2.4 User Classification According to Physical Activity Levels

To determine the physical activity levels of the participants in the sample, the Physical Activity Dome's database, called the EFSI Entry System, was used as a reference. This program allows entrance through the electronic reading of the chip contained in the ID of each user. Once the system detects the chip, four options of activities to be performed in the facilities are displayed on a screen: physical classes, weight training and cardio, physical evaluations and not applicable. The user must select one of the choices, so that the access door opens, thus allowing entrance. With each entry record, the system stores data such as name, user type, user file number, entry date and selected activities. It is worth mentioning that the average duration of the activities (except those referred to as "not applicable") is one hour.

From this database, all admissions made by sample participants in the fall 2017 academic term (in the 16-week duration of the fall academic semester) were accounted for if one of the following options had been selected: physical classes, weight training and cardio, or physical evaluations. Those who had selected "not applicable" were not taken into account since these entries do not have the purpose of doing some kind of physical activity. Once the information was downloaded, the number of times each sample participant entered in order to obtain the total number of hours of physical activity performed in the 16 weeks, and subsequently, to obtain a weekly average of activity during that period, was counted. Based on this result, people were classified into two categories: active, those who worked out an average of 2.5 hours or more per week, and not very active, those who, on average, worked out less than 2.5 hours per week.

2.5 Correlation Analysis of Attitude Variables and Levels of Physical Activity and Linear Regression

The correlational analysis of the attitude variables and physical activity levels was carried out using the correlation formula for the Product Moment Interval scale with the IBM SPSS Statistics 25 software. Both samples were analyzed separately, according to the applied instruments.
In addition to the correlation analysis, a linear regression analysis was carried out for each of the instruments applied, precisely in order to confirm the existence of a possible causal relationship between the attitude variables and levels of physical activity.

3. Results

3.1 Measuring User Attitude Toward Fitness Instructors

Of the 150 users evaluated with the CA-ICF questionnaire, a mean score of 149.67 was obtained, with minimum values of 14 and maximum values of 171, SD = 21.37 and a variance of 457. The obtained raw data was subjected to the normalization process in order to assign them a population value, and from this, to obtain a distribution curve of scores, as well as the corresponding diagnostic categories. The normalization of the results obtained is presented below in Figure 9.1 and the corresponding table of categories in Table 9.1.

Figure 9.1 Normalized CA-ICF questionnaire results
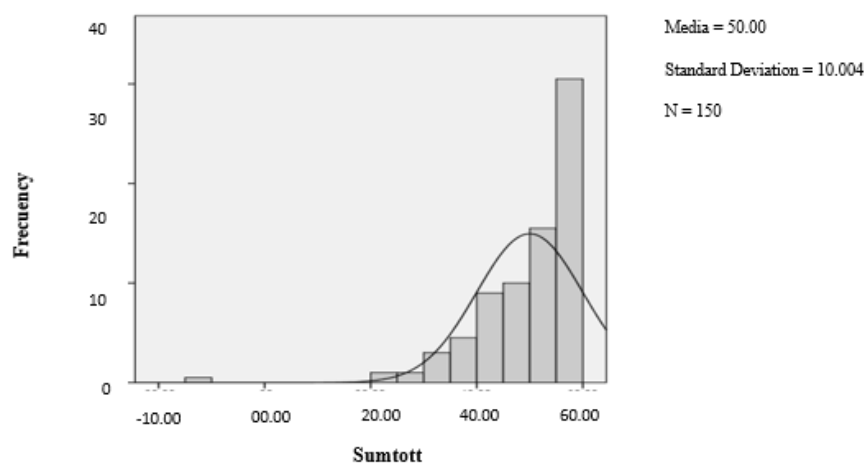
Note: Sumtott = Sum of the attitude results obtained in the sample of physical class users.
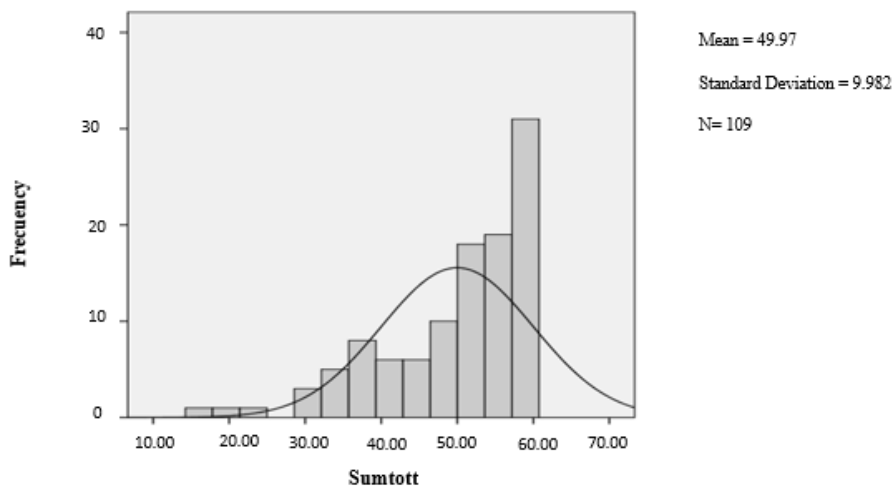N = number of participants in the sample

Table 9.1 CA-ICF Result Categories

CA-ICF Rating	Attitude Toward Instructor
T=40	"Unfavorable"
T= >40 y <50	"With areas of improvement"
T= 50	"Functional"
T=60	"Good"
T=>70	"Excellent"

Note: T = obtained result

     In turn, the results of the sample to whom the CA-ICF questionnaire was applied indicate that most of the users attending classes (61%) are located in the favorable attitude area; i.e., they like the physical class instructors. The results also indicate that a segment of the users in the sample (13.88%) are located in the unfavorable or low attitude area. Of the 109 CA-IF questionnaire instruments applied, a mean score of 119.46 was obtained, with minimum values of 72 and maximum values of 134, SD = 13.97 and a variance of 195.30. Through the process of normalizing the obtained results, the distribution curve of the scores (Figure 9.2) as well as the corresponding categories of results (Table 9.2) was obtained.

Figure 9.2 CA-IF Normalized Results

Mean = 49.97
Standard Deviation = 9.982
N= 109

Note: Sumtott = Sum of the attitude results obtained in the sample of strength and cardiovascular area users.
N = number of participants in the sample

Table 9.2 CA-IF Result Categories

CA-IF Rating	Attitude Toward Instructor
T= 40	"Unfavorable"
T= >40 & <50	"With areas of improvement"
T= 50	"Functional"
T= 60	"Good"
T= >70	"Excellent"

Note: T = obtained result

     The results, relative to the application of the CA-IF questionnaire, indicate that most of the users attending the strength area (63%) are located in the favorable attitude area, which means they like the strength area. The results also show that a segment of the sample users (10%) are in the unfavorable or low attitude area.

3.2 Measurement of Users' Physical Activity Levels

Derived from the classification of the users in terms of physical activity levels, the results were as follows: 90% of the sample participants completed an average of 2.5 hours of physical activity per week in the facilities of the Physical Activity Dome; therefore, they are considered active users according to this study's classification. The remaining 10% were classified as "not active."

The classification by levels of physical activity was also carried out by separating the sample participants according to the questionnaires that were applied to them. Taking in account only those to whom the CA-IF questionnaire was administered, percentages did not variate in a significant manner. Compared to those of the full sample, 89% out of 150 participants entered the classification of active, and the remaining 11% entered the non-active category. Of the 109 participants to whom the CA-IF questionnaire was administered, the results were the same as those of the complete sample, with 90% classified as active and the rest in the non-active category.

3.3 Correlation Between Users' Attitude Toward Fitness Instructors and Physical Activity Levels

The results of the correlation analysis relative to the application of the CA-ICF questionnaire instrument are shown in Table 9.3. They show a correlation coefficient of .868 and a significance level of 0.01.

Table 9.3 Results of the Correlation Analysis Between Physical Activity Levels and Attitude (CA-ICF)

Variable		Sumtott	Levels
Sumtott	Correlation	1	.868**
	Sig. (bilateral)		.000
	N	150	150
Levels	Spearman-Brown Correlation	.868**	1
	Sig. (bilateral)	.000	
	N	150	150

Note: Sumtott = Sum of the attitude results obtained in the sample of physical class users.
Levels = Sum of hours of physical activity from the sample of physical class users.
N= Number of people participating in the sample.
**Correlation significant at the 0.01 level (bilateral).

The results of the correlation analysis with respect to the application of the CA-IF questionnaire instrument are shown in Table 9.4. In this case, the correlation coefficient was .909 and the significance level was also 0.01.

Table 9.4 Results of the Correlation Analysis Between Physical Activity Levels and Attitude (CA-IF)

Variable		Sumtott	Levels
Sumtott	Correlation	1	.909**
	Sig. (bilateral)		.000
	N	109	109
Levels	Spearman-Brown Correlation	.909**	1
	Sig. (bilateral)	.000	
	N	109	109

Note: Sumtott = Sum of the attitude results obtained in the sample of strength users.
Levels = Sum of hours of physical activity from the sample of strength users.
N= Number of people participating in the sample.
**Correlation significant at the 0.01 level (bilateral).

In the case of the correlation between attitude and physical activity levels of the users of physical classes, a correlation coefficient of .868 was found; in the case of users of the strength and cardiovascular area, the correlation coefficient was .909. Averaging both results, the correlation coefficient between attitude and physical activity levels is .888.

In both cases, the correlation is significant at 0.01, which means that both correlation amounts are high and positive, i.e., statistically significant.

3.4 Linear Regression Analysis

In addition to the correlation analysis, a linear regression analysis was carried out for each of the instruments applied, precisely in order to confirm the existence of a possible causal relationship between the attitude variables and levels of physical activity. As a result of this confirmatory linear regression analysis in both instruments, attitude and physical activity levels are observed as unique predictors of each other. In the case of the attitude of users of physical classes through the application of the CA-ICF questionnaire, a prediction index of .752 was obtained with respect to physical activity levels. For the case of the attitude in strength users, measured through the CA-IF questionnaire, the prediction index resulted in .824. Both have an associated probability of .0001. The results of this confirmatory analysis are shown in Tables 9.5-9.8.

Table 9.5 CA-ICF Linear Regression Analysis

Model	*R*	*R*-squared	Adjusted *R*-squared	Estimate Standard Error
1	.868[a]	.754	.752	9.949

Note = Predictors = Constant;
Sumtott = attitude of users in classes;
R = Correlation; R-squared = Regression

Table 9.6 Associated Probability CA-ICF

Model		Sum of	*df*	Quadratic Mean	*F*	*Sig.*
1	Regression	44795.708	1	44795.708	452.553	.000[b]
	Remainder	14649.685	148	98.984		
	Total	59445.393	149			

Note: a = Dependent Variable; Levels b = Predictors (Constant);
Sumtott = Physical Class User Attitudes; df = degrees of freedom; F = ANOVA comparison test; Sig = Significance

Table 9.7 CA-IF Linear Regression Analysis

Model	*R*	*R*-squared	Adjusted *R*-squared	Estimate Standard Error
1	.909[a]	.826	.824	8.588

Note = Predictors = Constant;
Sumtott = attitude of users in classes;
R = Correlation; *R*-squared = Regression

Table 9.8 Associated Probability CA-IF

Model		Sum of squares	*df*	Quadratic Mean	*F*	*Sig.*
1	Regression	37437.929	1	37437.929	507.643	.000[b]
	Remainder	7891.099	107	73.749		
	Total	45329.028	108			

Note: a = Dependent Variable: Levels; b = Predictors: (Constant), Sumtott = Physical Class User Attitudes; df = degrees of freedom; F = ANOVA comparison test; Sig = Significance

4. Conclusions

The main objective of this work is to analyze the relationship between the attitude of Dome users towards fitness instructors and their levels of physical activity. In other words, how the users' feelings of liking or disliking of their instructors influenced the number of hours of physical activity they performed, taking the WHO recommendation as a reference parameter, was examined.

Regarding the results related to the attitude of the users, despite some negative results, the majority of the study population was located in an area of liking toward the instructors in the gym, clearly establishing the preponderance to the positive in terms of attitude. This reflects the users' acceptance of their leadership skills, communication and technical ability, suggesting a good instructor-student relationship; they reflect understanding and emotion and user approval and liking behaviors toward their instructors. However, in future research, it will be necessary to identify which aspects of the instructors had a positive influence and which should be strengthened in order to improve the quality of their work with the user.

Regarding the results obtained in terms of physical activity levels of the participants in the sample, it was found that a high percentage of them comply with the minimum number of hours recommended by WHO (2018) and ACSM (2014). This result is noteworthy, considering that there are several studies that report less favorable results in university students. However, it is necessary to emphasize that, unlike most of the referred studies whose samples were summoned from e-mail, this research was conducted in a population that already attends the university sports facility. It was also during the last phase of the academic semester (the last week of October and first two weeks of November), a period in which the academic load influences the attendance of students in practicing physical activity. This factor could be of less influence (in the negative sense) towards people who are already constant and who have already adopted physical activity as a habit, which is possibly why they continued to attend the Dome in that period despite the academic circumstances. In other words, it could be said that the people who conform the sample are already active and constant and therefore, comply with the minimum recommendations for physical activity.

On the other hand, it is also worth mentioning that the sports facilities of the campus itself and the costs of the service are also referred by some authors as an important factor in the physical activity behaviors of university students (Deliens et al., 2015). As the services in this university are free, this could be an aspect in the research that positively influences the levels of physical activity.

Notwithstanding the above, it is undeniable that the present study confirms what has been expressed by authors such as Gammage and Lamarche (2014) and Burke et al. (2006) regarding the relevance of social support for initiating and maintaining physical activity practice. In this same sense, Farren et al. (2017) and Brown et al. (2014) also agree with the particularity that these authors emphasize the fact that the source of social support, specifically that coming from peers or from one's own social network, potentiates the results in university students. However, it is important to insist here that, although the fitness instructors constitute an authority figure for the users of the facility, they also constitute a close person and a role model for this population. It is common to find that instructors with appropriate pedagogical and communication styles provide emotional and informative support that forms bonds of closeness with the people they serve and that allow users to remain motivated, committed and constant in the practice of physical activity (Puente & Anshell, 2010; Puigarnau et al., 2016). The relevance of this lies not only in the promotion of a more active and therefore healthier youth, but also in the fact that physical activity at the university stage is an important predictor of its practice in adulthood (Moreno et al., 2005).

The results of this research confirm the existence of a high and significant causal relationship between the attitude of the users toward their fitness instructors and the levels of physical activity. That is to say, to each increase in the attitude shown by the users toward their instructor corresponds a high level of participation in physical activity. These findings confirm the importance of the role of fitness instructors and the fact that their performance represents a relevant aspect in terms of positive influence so that the users of their services practice physical activity and remain in it, contributing to that somewhat vulnerable population, and adopt habits that improve their health.

It would be interesting if, in future research, the attitude instruments are applied at the beginning of the semester, when the number of people attending the Dome is made up of frequent users, as well as new students at the university, of whom it is not known whether or not they will remain in the practice of physical activity, and to calculate the number of hours of physical activity until the end of the semester. The present study confirms the need for further research on the role of fitness instructors as promoters of physical activity and health, in order to have greater clarity on the aspects to be strengthened in order to stimulate and maximize positive results in their work in university populations.

There are, undoubtedly, many factors that influence the practice of physical activity and the permanence of individuals in it. This work confirms the existence of a significant positive correlation between the instructor factor and the user's physical activity levels and that the attitude toward instructors is a predictor variable of their physical activity levels in university students.

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Chapter 10 Marketing for the recovery of customers lost in time of pandemic in the Municipality of Tampico, Tamaulipas

Capítulo 10 Marketing para la recuperación de clientes perdidos en tiempo de pandemia en el Municipio de Tampico, Tamaulipas

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Abstract

This article presents the findings of the analysis of the preferences of customers lost in the period 2017-2020 in the National Chamber of Commerce, Services and Tourism of Tampico, taking into account the COVID-19 situation and the measures adopted by the Municipal Government of Tampico in the face of pressure from partners. The methodology consisted in the application of a survey to 384 companies in the town, with the purpose of knowing their needs and generating marketing strategies for decision-making. The main result observed is the need to establish actions aimed at the efficient use of the portfolio of available clients, in order to meet the needs of customers and face unexpected situations.

Analysis, Research, Clients

Resumen

Este trabajo de investigación nos permite el ofrecimiento de información respecto al mercado actual condicionado a la oferta de bienes sustentables en el mercado. Este artículo presenta los hallazgos del análisis de las preferencias de los clientes perdidos en el periodo 2017-2020 en la Cámara Nacional de Comercio, Servicios y Turismo de Tampico, tomando en cuenta la situación del COVID-19 y las medidas adoptadas por el Gobierno Municipal de Tampico ante la presión de los socios. La metodología consistió en la aplicación de una encuesta a 384 empresas de la localidad, con el propósito de conocer sus necesidades y generar estrategias de marketing para la toma de decisiones. El principal resultado observado es la necesidad de establecer acciones orientadas al uso eficiente de la cartera de clientes disponibles, con el objeto de atender las necesidades de los clientes y enfrentar situaciones inesperadas.

Análisis, Investigación, Clientes

Introduction

As a result of the health emergency generated by the SARS-CoV2 virus, businesses in Mexico have been affected in their operations. For this reason, the National Institute of Statistics and Geography developed an instrument to generate statistical information on the subject and support decision-making called the Survey on the Economic Impact Generated by COVID-19 on Businesses (ECOVID-IE 2021), which in its third and last survey as of February 2021 establishes that 85. 5% of the businesses surveyed reported being affected, identifying three main causes: a decrease in income, low demand and shortages of inputs and/or products. This occurred in the commercial and service sector at the beginning of the pandemic, with 30% reported in the Canaco Tampico. This led to temporary closures or technical stoppages in 16.6% of organisations nationwide.

Faced with this scenario, the National Chamber of Commerce of Tampico registers a drop in income, due to the decrease of new members and the loss of those previously affiliated. This situation has resulted in operational problems, mainly affecting the collection of sufficient resources for the maintenance and fulfilment of the purpose of the Chambers established in Article 7 of the Law of Business Chambers and their Confederations (2019).

The present research allows us to recognise the importance that their members represent for the Chambers and the need for a study to change or improve certain aspects that can cause customer losses. The objective of the study is to analyse the information provided by 384 of the current and lost customers, from the database of the National Chamber of Commerce of Tampico, composed of affiliated and disaffiliated businessmen and traders in the southern suburban area of Tamaulipas in the period 2017-2020 that allows the design of a marketing strategy for the recovery of lost customers.

To this end, the article begins with the background, which includes a description of the organisation and functioning of the Chambers and conceptual elements for the research. Another section describes the methodology and then presents the results obtained and their respective proposals for the implementation of marketing strategies for the retention and recruitment of members of the National Chamber of Commerce of Tampico.

Development

Background

The Chambers of Commerce, Services and Tourism are institutions of public interest, autonomous, with legal personality and their own assets that represent, promote and defend nationally and internationally the activities of industry, commerce, services and tourism (Law of Business Chambers and their Confederations 2019). In the particular case of the National Chamber of Commerce of Tampico, it is an association of companies and entrepreneurs that subsists thanks to the monthly contributions of each of the members that belong to the Chamber and through which the association provides services to its members, ranging from consultancy to hiring employees for these companies. In the National Chamber of Commerce of Tampico, they are committed to continuous improvement, so they work to provide quality services, as well as a broad representation through membership to promote the activities of the trade sector, services and tourism, promoting the development of enterprises, based on the applicable regulations, capturing, understanding and meeting the needs and expectations of its customers and stakeholders, with a process approach, through the implementation of a Quality Management System based on ISO 9001.

For the follow-up of the companies, the Chamber has the Mexican Business Information System (SIEM), which is an instrument to capture, integrate, process and provide timely and reliable information on the characteristics and location of the establishments of commerce, services, tourism and industry in the country, allowing a better performance and promotion of business activities. (Law on Business Chambers and their Confederations 2019). In order to keep the database updated, companies are obliged to report within two months situations of partial or total cessation of activities or change of line of business or domicile, to the same Chamber where the corresponding registration was made. This system is operated under the supervision of the Ministry of Economy and allows the National Chamber of Commerce Tampico to maintain a reliable and updated register of enterprises in the region.

Although the registration and registration for the Mexican Business Information System is mandatory, it does not require companies to affiliate to the Chambers, necessary to provide services for the benefit of its members that mainly seeks to create different support schemes as micro, small and medium entrepreneurs, in this regard the literature points out that a significant number of entrepreneurs affiliated to the National Chamber of Commerce of Tampico do not have the knowledge of some tools or business techniques, such as Marketing and in its case of Advertising. (Chávez 2015). Establishing the importance of the Chambers to achieve the competitiveness of its members, by having training programmes focused on the needs of entrepreneurs in the metropolitan area.

Methodology

The focus of the research is quantitative in nature, because an analysis of customer preferences was carried out in order to generate marketing strategies and thus be able to make decisions. It seeks to analyse the causes and effects of the problem of lost customers, allowing control over the phenomena under study. The quantitative method requires the use of standardised measures and the analysis of data in statistical form using a sample as a reference through a sequential and deductive process, thus analysing the objective reality of the problem under study.

It allows data to be examined numerically especially in the field of statistics and how the quantitative approach will be guided by significant areas or themes of research and use the collection and analysis of data to refine research questions or reveal new questions in the process of interpretation. Cazau (2006) states that: In a descriptive study, a number of questions, concepts or variables are selected and each is measured independently of the others in order to describe them. These studies seek to specify the important properties of individuals, groups, communities or any other phenomenon. This is why in this research the current situation of the company will be described and through the results obtained, objectives and strategies will be formulated in order to fulfil CANACO's plans. Table 10.1 below shows the variables that were considered in the research instrument

Table 10.1 Research variables

Variable	Dimensions	Indicators are measured in terms of the seniority of the partner or customer
Client portfolio	Types of clients Customer retention	Customer attraction Area efficiency Portfolio composition
Strategic plan	Market analysis	Customer value Quality of care and service Cost per lead Market competition
Customer satisfaction	Quality Service Customer perception Satisfaction	Highly satisfied customers Dissatisfied customers Trained staff Best offers on the market

The study population is made up of all current and lost clients of CANACO Tampico (including affiliated and disaffiliated businessmen and traders in the southern metropolitan area of Tamaulipas), which is why it has been considered as an infinite population, since it is a very large population to delimit the inactive members in recent years of the National Chamber of Commerce and Tourism of Tampico, for which the infinite population formula is applied to determine the sample.

$$m = \frac{Z^2 * p * q}{e^2} \tag{1}$$

Obtaining as a result: 384
Thus, the instrument we used for our study is:

- Survey: This technique allows valuable information to be obtained, i.e. this technique is used to obtain data from several people (population) quickly and efficiently, whose opinions will resolve different types of doubts and open up options for improvement.

- Document analysis: This technique consists of collecting existing information on the problem under study in different media in order to acquire new grounded knowledge and thus a better understanding of the problem under study.

Research results

Once the data collection instrument was applied, we proceeded to carry out the corresponding treatment of the information, for the analysis of the data, in an orderly manner, through the tabulation of the surveys applied to the lost clients of CANACO Tampico, establishing statistical percentages, which help to better appreciate the results obtained, which will indicate the reality of the investigation, in order to obtain the necessary information about the problem that is being presented in the investigation, and based on this information continue with the investigation, to subsequently apply the solution strategy.

Interpretation of the results

After processing the information obtained in the survey, the results are as follows:

Level of customer value

The aim is to know the value of the association (CANACO Tampico) for the client, in order to measure the level of positioning among the general public.

Table 10.2 Level of customer value

Responses	Respondents	Percentage %
Benefits	96	25%
Information	156	40.6%
Prestige	113	29.4%
I do not consider it important	19	4.9%
Total	384	100%

Of the 100% of the clients surveyed, 40.6% stated that the importance of belonging to CANACO Tampico is due to the information it offers, which shows that the services and benefits offered by the Chamber give purchasing power to its members.

Variety of products

This table analyses the importance of the variety of products that the association has, so that the customer will be more attracted and will create more value for the brand.

Table 10.3 Variety of products

Answers	Respondents	Percentage %
Not at all	7	1.8%
Partially	100	26%
Moderately	197	51.3%
Extremely	80	20.8%
Total	384	100%

Of the 100% of the members and potential clients surveyed, 51.6% consider that the variety of products offered by the Chamber is important to their decision to join CANACO Tampico, which shows that it must have a variety and presentation in what it offers in order to attract the attention of the client.

Customer service

This table shows the importance of the impact on the quality of CANACO Tampico's service to the customer in order to be part of this association.

Table 10.4 Customer service

Answers	Respondents	Percentage %
Not at all	0	0%
Partially	113	29.4%
Moderately	136	35.4%
Extremely	134	34.9%
Total	384	100%

Of the 100% of the members and potential clients surveyed, 35.4% consider that the quality of the service offered by the Chamber is important to their decision to belong to CANACO Tampico, which shows that it must have a good presentation within the organisation and attention to clients.

Brand value

The impact of the brand's value to the customer is measured in order to make the decision to join the association.

Table 10.5 Brand value

Answers	Respondents	Percentage %
Not at all	0	0%
Partially	95	24.7%
Moderately	152	39.6%
Extremely	136	35.4%
Total	384	100%

Of the 100% of the members and potential clients surveyed, 38.6% consider that the value of the brand offered by the Chamber is important for them to make their decision to belong to CANACO Tampico, which shows that it must have prestige and recognition to satisfy its clients and potential members.

Quality of service

This table measures the importance of quality of service to customers in order to be part of CANACO Tampico.

Table 10.6 Quality of service

Answers	Respondents	Percentage %
Not at all	0	0%
Partially	102	26.6%
Moderately	95	24.7%
Extremely	186	48.4%
Total	384	100%

Of the 100% of the members and potential clients surveyed, 48.4% consider that the behaviour of the staff offered by the Chamber is important for their decision to belong to CANACO Tampico, which shows that it must have a good customer service system for the retention and security of the members.

Dissatisfied Customers

It measures the understanding of customers' needs in order to make the decision to belong to the association, so it measures how important it is that they feel understood with their requests and opinions.

Table 10.7 Dissatisfied Customers

Answers	Respondents	Percentage %
Not at all	0	0%
Partially	46	12%
Moderately	76	19.8%
Extremely	261	68%
Total	384	100%

Of the 100% of the members and potential clients surveyed, 68.0% consider that the behaviour of the staff offered by the Chamber matters to them in making their decision, with an extremely high majority in the surveys to belong to CANACO Tampico, which shows that they should know how to listen and understand the decisions and doubts of each member.

Price

The influence of the price of the mentioned association on the decision to belong to it is measured.

Table 10.8 Price

Answers	Respondents	Percentage %
Not at all	0	0%
Partially	30	7.8%
Moderately	95	24.7%
Extremely	258	67.2%
Total	384	100%

Of the 100% of the members and potential clients surveyed, 67.2% consider that the price offered by the Chamber to become a member is important to their decision to become a member of CANACO Tampico, which shows that they must have a financial plan that is backed up by a financial plan that demonstrates the retribution of the benefits.

Market competition

The importance of CANACO Tampico remaining at the forefront of its competitors is analysed in order for customers to make the decision to belong to CANACO Tampico.

Table 10.9 Market competition

Answers	Respondents	Percentage %
Not at all	4	1%
Partially	88	22.9%
Moderately	126	36.8%
Extremely	166	43.2%
Total	384	100%

Of the 100% of the members and potential clients surveyed, 42.3% consider that the positioning and recognition of the Chamber is important for their decision to belong to CANACO Tampico, which shows that they must remain positioned and recognised in the market in order to give recognition and security to their members.

Measurement of the most important indicator

This table shows the most important indicator, as it gives an answer to those who have been lost clients and clients who could be potential clients of CANACO Tampico.

Table 10.10 Measurement of the most important indicator

Answers	Respondents	Percentage %
Yes	234	60.9%
No	150	39.1%
Total	384	100%

Of the 100% of the partners and potential clients surveyed, 60.9% are lost clients of CANACO Tampico. This shows that we have a large margin of surveys and results for a concrete and specific decision making in a marketing action plan for the recovery of these lost clients.

Level of customer attraction

The variable by which the client came to CANACO Tampico is shown.

Table 10.11 Level of customer attraction

Responses	Respondents	Percentage %
Company value	58	24.5%
Marketing and advertising	2	0.8%
Variety of services	98	41.4%
By recommendation	50	21.1%
Price	29	12.2%
Total	237	100%

Of the 100% of the members and potential clients surveyed, 41.4% became members of CANACO Tampico because of the variety of services it offered in return, which shows that they must create a perception for the client of all that can be achieved and benefited by belonging to such an organisation.

Better offers from competitors

No members were found to have joined any other organisation after defecting.

Highly satisfied customers

It measures the satisfaction value of customers when making their decision to no longer belong to CANACO Tampico.

Table 10.12 Highly satisfied customers

Answers	Respondents	Percentage %
Yes	216	91.5%
No	20	8.5%
Total	236	100%

Of the 100% of the members and potential clients surveyed, 91.5% are satisfied with their decision to leave CANACO Tampico due to the different difficulties they had within the organisation.

Customer recovery

It measures the level of customers who could potentially return by improving areas of dissatisfaction.

Table 10.13 Customer recovery

Answers	Respondents	Percentage %
Yes	167	70.8%
No	69	29.2%
Total	236	100%

Of the 100% of members and potential customers surveyed, 70.8% are interested in returning to CANACO Tampico. This is beneficial for the organisation to implement a great strategic plan for the recovery of members.

Clear and concise information

Customer satisfaction is shown by receiving adequate information for the resolution of their doubts and full knowledge of the services offered in the association.

Table 10.14 Clear and concise information

Answers	Respondents	Percentage %
Yes	144	61%
No	92	39%
Total	236	100%

Of the 100% of the members and potential clients surveyed, 61.0% did receive adequate information from CANACO Tampico, which is not so favourable since, if they had known the benefits and obtained the correct information, they would still be within the organisation.

Potential customers

The response of each member is measured by their interest in rejoining the association and they are therefore considered as potential future customers.

Table 10.15 Potential customers

Answers	Respondents	Percentage %
Yes	143	61.4%
No	90	38.6%
Total	233	100%

Of the 100% of members and potential clients surveyed, 61.4% are interested in receiving information from CANACO Tampico, which could be a great opportunity for them to learn about the benefits of the organisation as members.

Customer experience and satisfaction

It specifies which areas the client would like to see improved in order to have a better process during the start-up of the partnership and to ensure that the client is satisfied with their decision.

Table 10.16 Customer experience and satisfaction

Answers	Respondents	Percentage %
Better promotions	66	26%
Better payment processing	33	13%
Better customer service	53	20.9%
Better understanding of your needs	102	40.2%
Total	254	100%

Of the 100% of partners and potential customers surveyed, 40.2% would like to see an improved experience in understanding their needs because as partners they want to be listened to and have solutions to their queries.

Conclusions

– It is concluded that CANACO Tampico has not implemented quality customer service strategies to meet the needs of consumers, preventing it from meeting the expectations of service and attention provided by the company.

– The company has neglected to update its client portfolio when required by the partner, thus generating distrust.

– The company has a wide variety of services, but does not have the adequate preparation of its staff to inform future customers and partners, causing loss of customers.

– CANACO Tampico neglects the treatment of the client, but rather pays attention to factors such as granting credit, reducing the price of the service, etc.

– Lack of staff training in each and every area.

– Customer dissatisfaction with the service offered by CANACO Tampico.

– Lack of advertising strategies, so that more potential clients could be reached.

– There is a lack of research on competitors in order to take advantage of areas of opportunity.

– The company does not have a customer database, so it is not possible to give personalised attention to each one of them or to ask them about their satisfaction with the company, thus being closer to each partner and creating branding.

Recommendations

After having analysed the current situation of the company, its permanence in the market, the opinion of its lost customers and potential customers it is recommended to:

– Establish customer service quality strategies to improve the service and attention provided by the association, satisfying the needs and expectations of the members.

–   Encourage all CANACO Tampico staff to have a cooperative and customer-oriented attitude, in order to add value to the service, thus generating a competitive advantage, considering that the customer is the fundamental and primary factor for the growth of the company.

–   To update and improve the management of the client portfolio.

–   Create advertising strategies to reach more people, and thus grow the interest of customers.

–   To always follow up after each partnership.

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In the Chapter content any graphic, table and figure should be editable formats that can change size, type and number of letter, for the purposes of edition, these must be high quality, not pixelated and should be noticeable even reducing image scale.

[Indicating the title at the bottom with No.10 and Times New Roman Bold]

Table 1.1 Title

Variable	Descripción	Valor
V_V	Volumen de Venta	20000
P_V	Postura de venta	490.61
V_C	Volumen de Compra	20000
P_c	Postura de Compra	485.39
P^{Uh}	Precio último Hecho	491.61
V_o	Volumen Operado	1241979
P_u	Precio/Utilidad	0
P^{VL}	Precio/Valor Libro	0
U_a	Utilidad p/Acción	0
V^{La}	Valor Libro p/Acción	0

Source (in italics)
Should not be images-everything must be editable.

Figure 1.1 Title
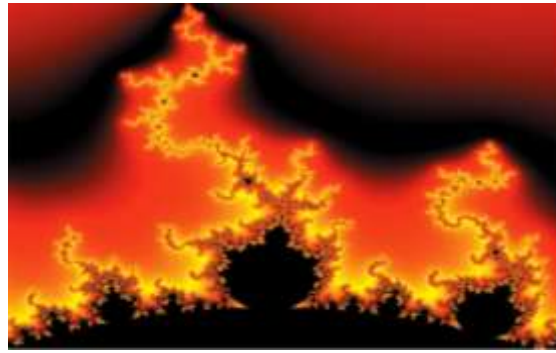
Source (in italics)

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Graphic 1.1 Title
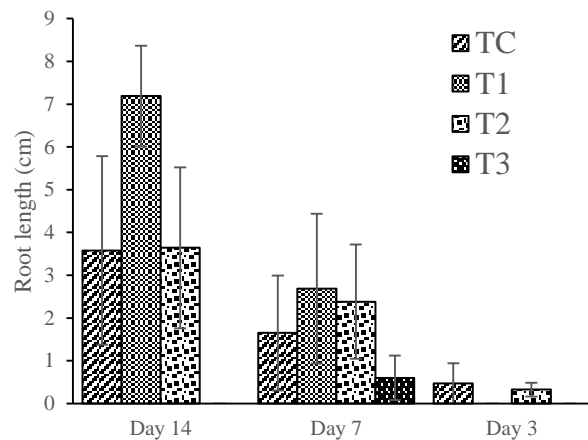
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Each chapter shall present separately in **3 folders**: a) Figures, b) Charts and c) Tables in .JPG format, indicating the number and sequential Bold Title.

For the use of equations, noted as follows:

$$\int_{lim^{-1}}^{lim^1} = \int \frac{lim^1}{lim^{-1}} = \left[\frac{1\,(-1)}{lim}\right]^2 = \frac{(0)^2}{lim} = \sqrt{lim} = 0 = 0 \rightarrow \propto \tag{1}$$

Must be editable and number aligned on the right side.

Methodology

Develop give the meaning of the variables in linear writing and important is the comparison of the used criteria.

Results

The results shall be by section of the Chapter.

Annexes

Tables and adequate sources

Thanks

Indicate if they were financed by any institution, University or company.

Conclusions

Explain clearly the results and possibilities of improvement.

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Use APA system. Should not be numbered, nor with bullets, however if necessary numbering will be because reference or mention is made somewhere in the Chapter.

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Each chapter must submit your dates into a Word document (.docx):

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Chapter title
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Keywords

Proceedings sections, for example:

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2. Description of the method
3. Analysis from the regression demand curve
4. Results
5. Thanks
6. Conclusions
7. References

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