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Notes:

"A study of the conflict between gender stereotyping and self-personal identity; its impact on Mexican women career development and mediation strategies to resolve gender inequality"

by

Edlyn Denisse Garcia Moran

A dissertation presented to the

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ABSTRACT

Gender inequality and stereotypes are constantly manifested in all areas of political, economic and scientific life in Mexico, impacting significantly on women's career development, their career choices and their under-representation in STEM fields, along with one of the most lamentable consequences of sexism which translates into a concerning rise of femicides and domestic violence against Mexican women, which aggravated during the confinement, due to the COVID-19 pandemic, which broke out while this study was being carried out.

The research used a cross-sectional analysis by gathering primary data using a quantitative method (survey research) to explore and examine the opinions, attitudes and experience of Mexican individuals in order to identify and explain the reasons behind the gender gap in STEM careers and leadership positions in Mexico.

Social constructionism and expectations based on gender, which often have a conflictive relation with people's own abilities beliefs and auto identification with gender roles, demonstrated to be the dimensions with a major impact on Mexican women's career choices and their professional advancement.

This study validated the hypothesis that the gender gap in STEM fields and leadership positions in Mexico is mainly caused by gender stereotyping and social expectations, which are based on an individual's perceived sex.

This research concludes with recommendations on the implementation of mediation strategies for conflict resolution in Educational Institutions and in the workplace in order to generate gender equality awareness, which will help to prevent and resolve conflict related to gender issues and which will ultimately reflect on a fairer society.

1.1 INTRODUCTION

The following study contains a detailed analysis of the observed conflict in construction of women's self-identity, which is believed to be influenced, motivated and often determined by society's gender expectations and stereotyping, impacting directly on women's career choices and professional development.

It is expected to clearly identify and recognise the causes and factors determining or influencing the gender gap in STEM fields, with a focus on Mexican society and the effects of gender bias on women's career choices and development, which presents itself as a conflict between society's expectations based on gender (social meanings, perception, expectations attached to being a woman or a man), i.e.: women are expected to be what is believed to be feminine (polite, nurturing, dress in a feminine way), while men are expected to be the opposite, strong, bold and aggressive. It has been found by numerous studies, that such beliefs often differ from reality, conflicting with men and women's own personal identities and own abilities beliefs, and affecting directly the construction of their self-identity and the choices they make, resulting in an important gap or disparity in the workplace, particularly in STEM fields. (McNeill and Douglas, 2011, Heilman, 2012, Cundiff and Vescio, 2016).

Once clearly identified, such disparities and its causes will be thoroughly analysed in order to accomplish the purpose of the study, which is to provide a comprehensive analysis of the subject by examining the contributing factors, perceptions, myths and misconceptions surrounding this controversial subject, to finally propose mediation strategies to balance the percentage of women in STEM careers and validate or disprove the hypothesis described in the

research question further specified in this study. Conclusions and recommendations will also be provided in order to contribute to closing the gender gap in Mexico and address the shortage of qualified talent in STEM fields.

This chapter contains a detailed description of the topic selected for research, a description of the research question, aim of the study and research objectives along with a subject justification, background and a descriptive analysis of the thesis structure; ethical considerations and limitations of the study have also been included, as they are often regarded as two of the most important parts of research; dissertations are often doomed to failure if such parts are missing. (Bryman and Bell 2007).

The researcher also considered important to include a description of expected outcomes and strategies to overcome possible problems that may arise during the course of this research.

1.2 DISSERTATION TOPIC

A study of the conflict between gender stereotyping and self-personal identity; its impact on Mexican women's career development, and mediation strategies to resolve gender inequality.

1.3 JUSTIFICATION

There has been an enormous improvement in the last 60 years in terms of women's rights and education in Mexico; however, gender inequality and social stereotyping persists today. Women are still significantly under-represented in all economic, political, scientific and social areas. Moreover, the problem of sexism or "Machismo" that exists in the country has prevailed and manifested itself not only in the workplace, education and gender pay gap, but also in the

most violent form: at present, 10 Mexican women are killed every day in gender related homicides, the worst figure since records started in 1997. (El Pais, 2019).

Furthermore, the lockdown imposed worldwide due to the COVID-19 pandemic has increased the rates of domestic violence in Mexico and around the world. The UN has described the worldwide increase in domestic abuse as a "shadow pandemic", with an alarming increase of 90% more cases of domestic abuse in Mexico alone. Sexism and the gender bias attached to it, are issues that need urgent attention. (UNWOMEN, 2020).

Education and eradication of gender bias or social stereotypes in Mexican society would be key contributors in the development of a more equal and just society. It is critical to raise awareness of the importance and influence of gender stereotyping, especially in the early stages of life of both, men and women, and the consequences of negative social constructs on the personal and professional development of Mexican people. If women are equally encouraged to exploit their inner potential, it would eventually be reflected in the workplace and communities' development.

Furthermore, it is a vital responsibility that should be undertaken by decision makers in Mexico to recognise the principal causes of gender disparity in STEM careers, to identify the actual reasons behind it, which range from social, cultural and biological factors in order to effectively identify them, and move towards the aspects of the mentioned disparity to finally apply solutions that can reduce it. In this context, and based on data collected from primary and secondary research, the author will be able to analyse and identify such factors in order to recommend Mediation strategies and techniques to effectively approach the conflict, which is proposed as an instrument that can be used for both, raising awareness and resolving the conflict, impacting directly, in a positive manner, in the current figures and trends in relation to gender disparity in Mexico.

Contemporary Mexican researchers, such as UNAM Professor Julieta Fierro indicate that an important factor influencing the gender gap is the lack of role models for women in Science and other fields, which has had a long lasting effect on women through history, but it is now time to change, women are needed in all areas of knowledge, but particularly in science; the bigger problems are being resolved by multidisciplinary groups, people from different backgrounds, fields and genders. Considering that genders think differently (either by biological or social reasons), and such differences give genders relative advantages, then having more diversity and more women involved in Scientific areas, would make it easier and faster, to advance in these particular fields. (Fierro, 2020).

In the specific case of social constructs determining women's career choices, there are vast amounts of evidence in research that indicate that gender stereotypes influence people's career choices and professional advancement, resulting in fewer women occupying top positions and choosing STEM careers. (Gerdeman, 2019).

Moreover, new research identifies the lack of confidence as the main reason behind the gender gap in STEM careers and leadership positions; Katherine Coffman, (2019) suggests that "gender stereotypes can kill a woman's confidence, they can even cause women to question their own abilities". Such lack of confidence would prevent them from competing in fields of Science, Technology , Engineering and Maths.

The purpose of this study is to test these social influences in the form of social constructs or stereotypes, in order to prove how often do they contradict women's own abilities beliefs or self-personal identities, and the barriers or effects they create for the development of their inner potential and professional development, to finally propose strategies such as Mediation in the workplace and in Educational Institutions to raise awareness and effectively resolve the conflict.

1.4 BACKGROUND

There is plethora of research supporting the concept of gender roles as stereotypical conducts imposed by society, depending on people's genders, their culture and geographical location they are raised in, but there is not enough information about the relation between self-identification and gender beliefs, and the impact of such aspects on their identity construction and career choices, which often contradict each other.

Starting with social expectations, traditionally and historically, roles performed by women have remained submissive and amenable, they tend to dominate caring and reproductive roles, such as nursing, teaching, office assistance, etc., while men are encouraged to be strong leaders, and to pursue their careers to reach top level positions in all fields, including those in Science, Technology, Mathematics and Engineering.

Every society in the world is structured and determined by gender roles, with clear differences and expectations depending on the gender of each individual that is part of a community; their professional development is generally predetermined according to the characteristics and actions that are attributed to each sex, by social constructivism, which is expected to be developed accurately. (Charles and Bradley, 2009).

Nevertheless, such social constructs and expected stereotype conducts have resulted in a significant disparity between genders in all economic, political and social areas.

Reports from the OECD, 2019 indicate that "countries had made very little progress in reaching gender equality goals in the previous 5 years. Gender gaps persist today in all areas of social and economic life across countries, and the size of these gaps has often changed very little" (OECD, 2019).

In the case of Mexico, the situation not only persists, but is actually worsening in many aspects; women are still significantly under-represented in senior decision-making positions in both,

public and private sectors; in terms of STEM fields, according to the AMC (Mexican Academy of Science), in February 2018, only 15% of the students enrolled in Mathematics, Engineering and Geoscience subjects that academic year, were women. It is interesting to note that research done by CONACYT in 2017 showed that up to a 46.6% of women expressed an interest in studying science (Physics and Mathematics), however, later that same year, there were only 2.9% of women enrolled in such courses. (CONACYT 2017).

When comparing evaluations and grades by gender, Mexican women outperform men in average at all levels of education, which suggests that academic performance is not a factor influencing directly on women's career choices and professional advancement as previously suggested by Zimmerman (2000).

Another factor affecting women's education, is their need to leave school before entering college, as women between 20 and 30 years old do not attend school mainly due to pregnancy and marriage at a young age. (INEGI, 2018).

Furthermore, there is a clear correlation between gender stereotyping, sexism and violence against women. As studies from the Mexican Institute of Women show: 43% of women who did not identified themselves as victims of domestic violence believed that a good wife should always obey her husband, while 36% of women who did suffer from domestic violence expressed the same, which suggests that female submission and obedience is the only way they see as viable to avoid violence. (INMUJERES, 2003).

In terms of gender differences and their social or biological causes, Betty Friedan (1950) in her book "the feminine mystique" was one of the first authors to defy the society's beliefs that women fulfilment was intrinsic to being a carer and a devoted mother. Her study, conducted on American middle-class women for five years, concluded that the recurrent illnesses presented in the majority of American housewives in the form of depression, anxiety or

"hysteria", was due to their conversion from being independent and career-minded professionals to passive women dedicated only to their family. Friedan was one of the pioneers that challenged the general perspective of women to be "caged" in the role of housewives, while vanishing their identities and aspirations.

Nevertheless, Sigmund Freud, a renowned Psychoanalyst who had an important influence, particularly on American psychiatry (Hale, 1995), claimed that those women who rejected their femininity and passiveness were just unstable, and the frustration they were embroiled in was the result of their failure to fulfil the role that was fabricated for them. Freud stated that "the fault did not lie in the stereotype, but in the individuals, who rejected it" (Freud, 1968).

Overall, there are evident inconsistencies between women's high performance, gender stereotyping, the biological and social meanings attached to being a woman or a man, women's self-stereotyping, self-identity, and their actual professional advancement, which have had an important impact on gender equality in the workplace and in society in general.

This study will provide a comprehensive analysis of the causes and effects of gender stereotyping and the conflict between this social phenomenon, by analysing and contrasting women's actual beliefs on self-identity with what is expected of them, and their impact on career choices and advancement.

1.5 THE RESEARCH QUESTION:

The purpose of this study is to thoroughly analyse and examine the observed conflict in the construction of women's self-identity and their career development, which is anticipated to be influenced, motivated and often determined by society's gender expectations and stereotyping, impacting directly on women's professional development and causing the gender gap in STEM

fields in Mexico to remain disproportionate and, in many cases, for women's absence in leading positions.

This research will be focused on the validation or rejection of the hypothesis that gender imbalance in STEM fields and leadership positions is actually caused by gender stereotyping: social constructionism and expectations based on gender (social meanings attached to being a woman or a man), which frequently presents itself as a conflict between such gender beliefs and self-identification, particularly women's own abilities beliefs.

According to a growing body of research and literature, such gap may follow two different approaches: social constructionism or biological determinism, the two concepts are analysed in chapter 2, Literature review, which also includes a justification for the decision not to incorporate a biological determinism approach into this study. The author of this research considered that there was sufficient evidence to reject the theory of biological determination based on two genders (female and male) dictating interests and performance based only on binary biology. Gender identity based on biology is a complex subject that has been demonstrated scientifically, is very difficult to define; when genetics is taken into account, Paul James, Clinical Geneticist, indicates that "the boundaries between sexes becomes even blurrier". Each individual presents variations and biological differences between members of the same attributed gender. (Scientific American, 2018).

The recollection of information will assist the author to infer from evidence conclusions and provide recommendations to implement alternative actions and suggest new methods, such as Mediation and Negotiation to achieve gender equality in Mexican society.

1.6 RESEARCH AIM

The purpose of this study is to objectively assess the dimensions and impact of gender stereotyping on Mexican women's career choices and professional development, the conflict between self-identity and society's expectations, and the importance of gender equality awareness in Mexican society, by employing Mediation strategies in the workplace and in Educational Institutions in order to prevent and resolve conflict, and to provide information and create awareness on gender issues, which will eventually be reflected on a fairer society.

1.7 RESEARCH OBJECTIVES

Research objectives were formulated in order to resolve the research question, as follows:

1. To identify discrepancies and convergences of the two perspectives considered in this study: gender stereotyping (social perception) and self-identity or own abilities beliefs.

2. To understand and identify the social and cultural barriers to gender equality in Mexico, the reasons behind gender disparity in STEM subjects and the barriers that keep women from reaching top positions in Mexico.

3. To demonstrate the influence of cultural barriers and social constructs on Mexican women's choices and their formation.

4. To suggest Mediation strategies that may well contribute to building a society with major justice and equity.

1.8 RESEARCH RELEVANCE

Sexism and discrimination are unfair treatments given to people based on a person's sex, which are illegal conducts that should be punishable under Mexican law. However, gender stereotyping is a subtler form of the same prejudices, causes for which are not being attended and, from a socio-cultural perspective, has been demonstrated that are harmful for the development of people's maximum intellectual potential or best inner selves.

Moreover, from an economic perspective, gender imbalance in the workplace is "not only a gender issue, but an economic matter". By achieving gender equality, business and economic performance could be significantly improved, having a positive direct impact on all stakeholders. (HBR, 2016).

The World Economic Forum, 2016, forecasted that even though it might take up to 170 years to globally achieve gender equality and close the gender pay gap, an estimated $12 trillion could be added to global growth by advancing on gender equality and closing the gender gap, which would boost GDP by about 10% in North America and Europe. Additionally, there is a growing concern over the last decade in relation to the shortage of Science, Technology, Engineering and Mathematics workers to meet the demands of the labour market. In the USA is estimated that a continued shortage will translate into a loss of $454 billion in economic output (17% of the forecasted GDP). (Mc Kinsey, 2015).

As mentioned before, society in general, but particularly decision makers in Mexico should be able to recognise the causes of gender disparity in STEM careers, identify the actual reasons behind it, which range from social, cultural and biological factors, in order to effectively approach them, and move towards the aspects of the mentioned disparity to finally apply solutions that can reduce it. The researcher intent to find and suggest mediation solutions to the

conflict arisen from such disparity in STEM careers in early stages of childhood, schools and the workplace and not only resolve the conflict but to transform the situation or environment in a more positive condition.

1.9 LIMITATIONS OF THE STUDY

- The scope of research. This study was carried out considering a traditional binary classification of people (female and male), however, sex determination based on biology is a complex subject that involves many variations of biological constitution that has been demonstrated scientifically, is very difficult to define; moreover, a growing number of people from newer generations are moving away from the conventional idea of only 2 existing genders, with many people even rejecting identifying with any of them.

- Time. The surveys were intended to reach a larger group of participants in different areas of the country, however, due to the limited time frame provided for the development of this study, the researcher decided to focus the primary research process on her own State (Coahuila, Mexico).

- Bias. Participants were encouraged to provide honest answers, nonetheless, and even if surveys may be generally experienced as less intrusive than qualitative approaches, the responses may have been more reactive to personalities, feelings and moods experienced at the time the survey was filled. Moreover, the participants were found to match a certain background which was similar to that of the researcher, which suggests that their responses may be aligned with the researcher's estimations.

1.10 ETHICAL CONSIDERATIONS

- In order to produce a valid investigation, an ethical practice of investigation ought to be performed. Through the process of research, an ethical behaviour was demonstrated from both endings; researcher and participants. The researcher informed the participants about the purpose of the study, methods intended to make use of and reassured the anonymity of the respondents, whom were willing to participate voluntarily. Equally important, the researcher was aligned with the ethics of the investigation, putting aside any personal interests that might be involved, in order to be objective and leave behind moral judgments.

- Overall, during the course of this study, the following ethical considerations were implemented and followed:

- Voluntary participation

- Informed consent

- Anonymity

- Confidentiality

- Assessment of only relevant components

- Bryman and Bell (2007).

- Overall, the participants of this study were not subject to any harm; respect for the dignity of the participants was always a priority, and the confidentiality, anonymity, and privacy of them was ensured at all times.

1.11   EXPECTED/INDICATIVE OUTCOMES

It is expected to objectively answer the research question and address the research objectives, while gaining a complete understanding of the causes of gender inequality in Mexico, mainly to have a positive impact on this area of research, but more importantly, the author intends to increase awareness of the outstanding effects of partaking and segregating genders, consciously or unconsciously, from a very early age, and the critical impact on their further development, personally and professionally.

Afterwards, and based on the conclusions of this study, the researcher's intent is to go further and develop a program to growth consciousness around gender equality's best practices in Mexico, specifically in the areas of Mediation and Negotiation, which would eventually reduce the gender gap in all aspects of social and economic life.

1.12 THESIS STRUCTURE

This section contains a description of the main divisions of research, designed and organised in order to address the aim of the study and research objectives. (Saunders and Lewisggh, 2012).

- **Chapter 1:   Introduction.** Chapter 1 provides an overview and background of the subject of the study, which also includes a detailed description of the problem statement, research aim and objectives, justification, research methodology, research structure, limitations of the study and ethical considerations.

- **Chapter 2: Literature review.** This chapter starts with a general overview and introduction of the subject and general previous research, which builds up a theoretical justification and background of the subject. The importance of gender equality and women's professional development is described through a conceptual and empirical evidence approach. It includes its probable causes, influence, impact and implications, along with a discussion of secondary research on existing gender imbalances in Mexico.

- **Chapter 3: Research Methodology.** Contains a detailed description of the research methodology applied in this study. The 'Research Onion' developed by Saunders (2009), is the model selected to be applied to discuss the strategies, research philosophies, aims and approaches to accomplish the research objectives. This chapter also includes the elements of validity and reliability of primary data, along with a description of the questionnaire sent to the participants, which follows the approach of primary quantitative research.

Chapter 4: Research Findings, Data Analysis and Discussion

- Findings and results from the collected data are discussed. This chapter provides a detailed description and answer to the research objectives of this study based on respondent's opinions and understandings. Each one of the surveys were carefully selected and analysed based on the participants' characteristics and relevance to the subject.

- **Chapter 5: Conclusions and Recommendations.** This chapter concludes with an answer to the research question based on primary and secondary research. It also provides a summary of the results and discussions presented in chapter 4.

1.13 OVERVIEW

In this first chapter it was provided an overall explanation of the topic, research aim and objectives, its purpose, relevance, acknowledge of limitations, ethical considerations and research structure, in order to provide an overview of the topic and summarise the information about the gender gap in STEM careers in Mexico, the influence of gender stereotyping in Mexican society and its impact on women's career development. The conflict between society's gender expectations and own personal abilities' beliefs will be analysed in detail, in order to finally address one of the most important objectives of the research, which is to provide recommendations and suggest Mediation and Negotiation strategies that may well contribute to building a Mexican society with major justice and equity.

CHAPTER II

LITERATURE REVIEW

2.1 INTRODUCTION

Gender inequality and stereotyping exists and persists today, in all social and economic areas worldwide. Every society in the world is structured and determined by gender roles, with clear differences and expectations depending on the gender of each individual that is part of a community. Their professional development is generally predetermined according to the characteristics and actions that are attributed to each sex, which are socially expected to be developed accurately (Charles and Bradley, 2009).

It is generally accepted that gender roles are stereotypical conducts imposed by society, depending on people's genders, the culture and geographical location they are raised in. Traditionally and historically, roles performed by women have remained submissive and amenable, they tend to dominate caring and reproductive roles, such as nursing, teaching, office assistance, etc., while men are encouraged to be strong leaders, and to pursue their careers to reach top level positions in fields such as Science, Technology, Mathematics and Engineering. (Ellemers, 2018).

This chapter includes relevant studies and statistics which clearly demonstrate the latent conflict in Mexican society in relation to sexism and gender stereotyping. For the purpose of this study, the research will be focused on: society's communal perception and expectations they have for each gender, and women's own abilities beliefs, and the impact of such on women's career choices and professional development. It aims to convey the review of existing literature whose approach draws the differences and convergences existing in Mexican society

involving women and men, particularly parenting methods, their consequences, and impact in adulthood, with important effects on people's self-identity and personal and professional development.

2.2 WOMEN'S RIGHTS HISTORY

The fight for women's rights started by the end of the 19th century in Europe and the USA, with what is modern-day called 'the first wave of feminism', a term coined by Martha Lear, writer of the New York Times, in her article: "The Second Feminist Wave: What do these women want?", (1968). This 'first wave of feminism' was focused on legal and political issues, especially on fighting for the right for women to vote, which was not possible in any country at that time. The movement rapidly gained force and spread across the continents, suffragists organised and rallied throughout the world. The first country to grant women the right to vote was New Zealand in 1893, followed by Australia in 1902 and the majority of the Nordic countries from 1906 to 1915. However, this right was not fully granted to all women, it was given only to some of them, under specific circumstances and/or only if following certain conditions.

Women won the right to vote in Ireland and Great Britain in 1918, after decades of fighting and campaigning by 'the suffragettes' a term that was first used in an attempt to demean women advocating for their right to vote.

In Mexico, this right was granted 35 years later, in 1953. It was not until 1955 that Mexican women had the right to vote in a Presidential election; however, a collective feminist movement was not officially organised and recognised in the country until 1971, when a group of Mexican women, inspired by the European movements, established the "MAS" or "Mujeres en Accion Solidaria" (Women taking solidary action).

These efforts might seem relatively new, however, gender inequality is an issue that has been long voiced and expressed by many women from centuries ago. Documents and works of the first female authors that were allowed to publish and sign their works show that education and vindication for women's rights is a movement that started long ago; according to Simone de Beauvoir and her book "The second sex", (1945), Christine de Pizan was the first woman to take up her pen in defence of her sex, known as one of the first feminist writers, whom advocated for women's contribution to society and celebrated the achievements of important female figures such as Joan of Arc (1405). Other examples include: Modesta di Pozzo di Forzi or Moderata Fonte author of "The Worth of Women", (1600); Anne Bradstreet, Marie le Jars de Gournay and François Poullain de la Barre whom published "The equality of sexes" (1673), and Mary Wollstonecraft, widely known as an active advocate of social and educational equality in England, whom called for educational reforms and believed that reason and education should be a foundation of social order that included equality for women "A Vindication of the Rights of Women" (1792), and "The Wrongs of Women" (1798).

In Mexico the first records of works advocating for women's rights are credited to Sor Juana Ines de la Cruz, a Mexican writer and nun, who was known for her poetry works and criticism of misogyny and patriarchy, which led to her condemnation by the Bishop of the State she resided in, in 1694.

Currently, some of the most prominent advocates for Mexican women's rights are the writers Martha Lamas, activist and author of several books such as 'Miradas Feministas sobre las Mexicanas del siglo XX, (2002), (Feminist thoughts on Mexican Women of the 20th century) and the Anthropologist Marcela Legarde, author of several studies on violence against women, the myths of romantic love and the economics of sorority, the importance of female solidarity in a patriarchal society; as a result of their activism, important changes in legislation came into force, such as the depenalisation of abortion in parts of the country, the protection of women

suffering gender-based violence and the addition of 'femicide' to the Federal Penal Code; a crime that, unfortunately has aggravated in the last decade and continues to grow in number of victims: the first six months of 2020 showed an increase of 9.2% compared to the same period in 2019 and an increase of 13.2% when compared to 2018. Domestic violence in Mexico also increased in 2020 (Medicalexpress, 2020), the statistics show a staggering increase of 100% of reported cases, with the majority of cases occurring during the severest months of the COVID-19 pandemic. (El Economista, 2020).

2.3 LEADERSHIP GAP

As history records show, the fight for women's rights and gender equality has seen notable gains in the last decades in most parts of the world, particularly in politics. However, when exploring certain specific aspects of political, social and economic life of women in Mexico, it can be observed that gender inequality continues to be a major issue: Entrepreneurship is still dominated by Mexican men, with only 16% of female participation in this sector. In relation to political representation, Mexico is constituted as a democratic Republic, with 51% of female population and currently equal opportunities for men and women to postulate as candidates of any party, yet, the country, similar to its neighbour USA, has never had a female President; out of the 32 states that constitute The United States of Mexico -the official name of the Republic-, only 2 states have female governors, compared to 9 states governed by women out of 50 in the USA, which exhibit a similar female under-representation.

In the private sector, the disparity is no different, only 8% of CEO's in Mexico are female, *see Table No. 1 Leadership positions*, which is a phenomenon that can be observed in general in this sector, but it aggravates in national enterprises. According to the first report of Women

Matter Mexico, "Una Ambicion, dos realidades (One ambition, two realities)", women and men express the same ambition to achieve top positions in their companies, but in reality, men have 88% more probability to accomplish it because of an advantage in the number of opportunities given to such gender. (McKinsey and Company, 2018).

In relation to promotion and remuneration, Mexican women are less likely to be promoted, and the average salary of a woman occupying senior positions in Mexico is 22% lower than men. This pay gap translates into a serious loss of GDP; according to McKinsey and Company, (2019): "If the gender pay gap closed, it would boost the GDP up to 70% and the rentability of Mexican enterprises would improve up to 55%".

When education is taken into account, in Mexico, more women than men graduate from University (21% over 18% respectively). (OCDE, 2018). The academic performance in terms of grade average is also dominated by women, yet, as mentioned before, men outnumber women in leadership positions by large margins in every industry. Women account for 8% of CEO's, 10% of Executive Committees members and 16% of Senior Vice presidents in the country. It can be observed in the table below, that female representation decreases the higher the hierarchical level is, resulting in a minimum representation in leadership positions and an equivalently minimum participation in the decision-making process.

Table No. 1 Leadership positions.

LEADERSHIP POSITIONS			
	MEN	WOMEN	
CEO	92%	8%	
Executive Committee	90%	10%	
Senior Vicepresident	84%	16%	
Vicepresident	81%	19%	
Senior Management/Directors	75%	25%	
Administrative Managers	65%	35%	

McKinsey&Company, 2018.

There has been a long-held debate among researchers in this field in relation to the gender leadership gap observed worldwide, and its causes, along with the solutions that have been proposed, such as gender quotas.

Many researchers suggest that the disparity in the number of leadership positions held by women is merely a choice, referring to a lack of ambition as the real cause of the gap, or a result of various factors, including motherhood and the importance that is thought women give to family and personal values, over career development.

A contemporary academic and psychologist, Jordan Peterson, Professor at the University of Toronto, approaches this matter from a biological perspective, he considers, similar to Freudian ideologies, that the gender gap in leadership positions is not a consequence of social structure, but "nature itself". According to him, a woman's priority would naturally be to choose family

over work. According to this theory, it is a woman's decision to exchange the imminent bigger responsibilities of a potential promotion at work for the natural desire of having a family, he points at this, as the real cause of a women's career decline usually in their 30's. Allegedly, such natural and logical decisions would limit a company on their attempts of keeping and promoting women. (Peterson, 2018).

Nonetheless, new research recognises social stereotyping as an important factor influencing and affecting significantly the development of people's personalities and choices. In the specific case of women, social constructs and expectations may result in a lack of confidence built over the years, being it the main reason behind the gender gap in leadership positions; new research suggests that "gender stereotypes can kill a woman's confidence, they can even cause women to question their own abilities". (Bordalo, Coffman, Gennaioli, and Shleifer, 2019).

There are vast amounts of evidence in research that support this theory and the proven fact that gender stereotypes influence people's career choices and professional advancement, resulting in fewer women occupying top positions and choosing STEM careers. (HBS, 2019).

2.4 THE IMPORTANCE OF CLOSING THE GENDER GAP

It is consistently shown in gender studies that teams that include more women, generate innovative approaches more often, with fresh perspectives that result in more efficient solutions to problems; by incorporating women's perspectives, talents, and energies, societies and economies would benefit significantly and become stronger. A recent example of this can be observed by the response and strategies implemented by every country in order to control the

pandemic COVID-19: according to the analysis of 194 countries published by the Centre for Economic Policy Research and the World Economic Forum, women-led nations have had an overall better response, applied better controls, suffered six times fewer deaths than countries led by men and were more rapid and effective at flattening the epidemic's curve, which points to healthier and more equal societies that have switched to more receptive political agendas and a different approach to policymaking. It is suggested that the difference "may be explained by the proactive and coordinated policy responses" adopted by female leaders. (WEF, 2020).

2.5 BIOLOGICAL, SOCIAL AND CULTURAL FACTORS

Social conducts and gender roles are stereotyped behaviours inherited as part of a geographical location's culture, which is defined as "a broad collective patterns of thinking, feeling and acting that have important consequences for the functioning of societies of groups within those societies and of individual members of such groups" (Shear et al. 2007), it is also referred to in a more colloquial way as a "mental software" (Hofstede 2003).

Mexican society is not the exception, where gender norms are an important part of social behaviour. Such gender expectations can be observed by the clearly contrasting roles that are assigned to women and men; 'roles' are understood as the performance of the social individual behaviour, thus, they can be modified as per the susceptibility within the social constructivism that had been learned (INMUJERES, 2003).

Bustos (2005), stated that the gender roles underline the inequity of participation of women and men in various subjects through their lives; familiar, education, politics, labour, economics, etc., in which contrasting disadvantages for women are noticed in comparison with men. Traditionally for men, roles in politics, mechanics, top positions, etc., denote the productive

role that has been assigned to them, whereas, for women, the designated role is as a housewife, nurse, teacher, etc., indicating the reproductive and caring role. (INMUJERES, 2004).

Mexican society's culture is structured around the perceived sexual differences in human beings, mainly physical or anatomical differences, which is thought to define people as women or men.

According to Lamas (2002), the fact that women and men are anatomically distinct influences in the beliefs that value, intellectual quality, aptitudes, and attitudes shall be also different.

However, new research suggests that biological determination based on two genders (female and male) dictating interests and performance based on binary sex is overly simplistic. Gender identity and sex determination based on biology is a complex subject that has been demonstrated scientifically, is very difficult to define. When genetics is taken into account, Paul James, Clinical Geneticist, indicates that "the boundaries between sexes become even blurrier"; up to 1 person out of 100 presents a form of variation in their DNA, anatomy, chromosomes and cell biology, where the sex assigned to them at birth based only on anatomy does not match their chromosomes, DNA, or the rest of their biological composition. This number represents the number of cases that have been clinically demonstrated, either by accident, because the patients were attending a medical examination on a different matter, or because patients were actually looking for an explanation to a more evident biological variance, usually physical manifestations. (Ainsworth, 2015).

However, it is now suggested that nearly every person is a "patchwork of genetically distinct cell, some with a sex that might not match that of the rest of their bodies". Some other studies suggest that behaviour is dictated by a complicated network of molecular interactions. John Ackerman, endocrinologist at the University College London's Institute of Child's Health suggests that "there is much greater diversity within male or female and there is certainly an

overlap where some people cannot easily define themselves within the binary structure". (Scientific American, 2018).

Overall, each individual presents variations and biological differences between members of the same attributed gender. Therefore, it would be incorrect to expect a person's behaviour to align to social expectations which were defined in binary terms and ignore the infinite variations and composition of human beings as individuals, which would eventually have dramatic effects on people's development of their personality, interests and expression of their identity.

Nevertheless, gender expectations, which is understood to be "a collection of ideas, beliefs and social attributions that are built within each culture and historic moments based on sexual distinction", are established and expected to fulfil people's destiny within the attribution of certain characteristics and interpretation of the actions that individuals ought to perform - or expected to execute – as a result of social constructivism. (Ashmore and Del Boca, 1979).

From this perception, the concepts of femininity and masculinity have emerged, which decide the behaviour, functions, opportunities, appraisal, and relation amongst women and men. Personal, and social identity preconceptions or roles are considered 'natural', and define and differentiate female and male conducts within job divisions, religious familiar traditions, and overall any context of life.

As mentioned before, when the biological sex of a new-born is known or assigned, parents, relatives and society in general designate attributes based on predetermined expectations. If it is a girl it is assumed that she shall be delicate, gentle, look pretty and dress in pink, among other features. If it is a boy, it is expected to be strong, intrepid, conqueror and brave; girls will be taught to play with dolls and participate in home's chores (Kite, Deaux and Haines, 2008). From an early age they are involved in domestic endeavours that eventually will reproduce at home, these learnings become a common practice of the 'education' that women shall receive

to comply with the performance that is expected by society. On the contrary, boys are educated to be tough, it is forbidden to demonstrate weakness or express their feelings, with the constant reminder that 'crying is for little girls only'. These are examples of the base in which gender stereotypes rely on, expressions of social and cultural beliefs concerning tasks, characteristics, roles, and attributions clearly distinguished between women and men.

However, the mentioned examples of gender expectations or impositions are not conscious choices that can be individually accepted or refused. They appear from the collective space, familiar heritage, and from every aspect of life where a person participates. Social constructivism commences from the beginning of the life of individuals, by those who enhance some characteristics in accordance with the sex and inhibited others; as consequence, people surrounding the individual would provide different treatment reflected on the way in which they are related between each other, leading to gender distinction, with generally negative effects on women and establishing a sexual division of work (Yan, Wang and Zhang, 2012).

Nevertheless, the interaction that each person might encounter with other resources which provide new information would reaffirm or assist to reconsider the ideas involving feminine and masculine characteristics.

2.6 WOMEN AND ECONOMICS

In a democratic society, to obtain a certain degree of economic independence and personal freedom, it is required that individuals exercise their right to work to gain economic resources that ultimately will establish their socio-economic status and economic autonomy.

From the standpoint of gender, economic participation, and salaries earned cannot be analysed without its counterpart, which is the domestic work or reproductive job which is generally

performed by women, whom receive no remuneration for such labour. Women's economic contribution to society (paid and not paid) and the need to apply measures towards the conditions to improve the equity between women and men are subjects that have been positioned on the international agenda.

The relevance in the investigation and application of public politics in relation to paid jobs and unpaid jobs is an issue that has prevailed historically in Mexico and worldwide' it has been observed the clear sexual division of load work in which the majority of the household job without payment is done by women. Men have remained an important part of the paid work which, along with other factors, have positioned them as the main suppliers of domestic resources and placed women as administrators of the mentioned resources, responsible for the domestic workload and acting as the main carers of the family members (Horbath and Gracia, 2014).

However, these customs or traditions have been slowly modified in the past years, currently in Mexico, men are not sole providers; women also have had an important and increasing participation in the economic activities, along with household duties.

The differences between women and men in relation to the activities they execute for the labour market and domestic work reveal the foremost gender inequality in Mexico. Precisely, it is the time invested in household work that mainly restricts the labour reinsertion of women and their participation in other matters which leave them in a disadvantaged position in comparison with men, consequently, resulting in a restricted economic autonomy.

In addition to the activities performed at home, it is important to outline that, when a family business exists and is being run by the same members, it is usually women (daughters, wives, stepdaughters, etc.) of the owners who do not receive any payment, which is a clear example of the injustice and economic violence inflicted in women.

In Mexico, according to the Nacional Institute of Statistics and Geography (*Instituto Nacional de Estadistica y Geografia*), 1.5 million working women who are not recipients of economic income exist. (INEGI, 2019).

It is fundamental to emphasise the importance of the contribution of women to the economy and the precarious conditions in which they are sometimes required to work. It is important to develop environments with easy access to dignified work, to eradicate the oppression and encourage the fulfilment of women in particular.

In economic terms affecting the global economy, it was estimated by the World Economic Forum, in 2016, that even though it might take up to 170 years to globally achieve gender equality and close the gender pay gap, an estimated $12 trillion could be added to global growth by advancing on gender equality and closing the gender gap, which would boost GDP by about 10% in North America and Europe (Mc Kinsey, 2015).

2.7 EDUCATION IN MEXICO

According to the OECD (2017), only two of every 10 Mexican adults graduated from University, which places Mexico at the very bottom of the list of the 37 countries members of the OECD.

Even though public education in Mexico is free up to University level, poverty and wealth inequality still represent the most important barrier to quality education for the majority of Mexican people, who are left with no other choice but to leave school early and start working as young as possible to help to support their families. According to statistics last published in 2018 by CONEVAL, (National Institution that evaluates poverty and social conditions of Mexicans), 41.9% of Mexican people (52.4 million) live in poverty and 7.4% (9.3 million) live

in extreme poverty, other 43.3 million are vulnerable to fall in poverty and only 27.4 million (21.8% of the total population) can be considered to have a good quality of life. These figures are alarming and are particularly bad in indigenous regions.

Nevertheless, in the specific case of Mexican women, there are different factors that should also be considered, that are having a direct impact on their education and advancement:

Technical schools. The education system in Mexico, with the creation of the Bureau of Education in 1921, officially made it mandatory to provide free access to primary, secondary and tertiary education to all Mexican children, as part of a federal responsibility. Students at a high school level may choose an optative-oriented career known as "technical professions". The duration of technical school is usually from one to three years and it has the option to start after primary, secondary, or high school level. Normally, a technical school offers training in secretarial, computing, nursing, or electrical fields. It provides a specific set of occupation skills to students who are committed to develop such skills or capabilities; it is a popular choice particularly among women, generally for those in need of generating income to alleviate their family's economic pressure, which prevents them from pursuing a higher level of education, since it would require a major investment of time and economic resources.

Rural areas. There is a clear difference between urban and rural areas, and the challenges that living in a rural area poses for its inhabitants, which ought to be separately analysed to properly determine the level of insertion to education. In Mexico, rural communities are defined as areas with less than 2,500 of population; rural communities generally are subject to lack of public services and vital resources, such as water systems, telephone service, limited access to health and educational services, road infrastructure is null and the majority of their residents live in poverty. Therefore, the opportunity to access public education for the population in rural communities may be lower in comparison with those living in urban areas, who have better

infrastructure, and therefore, safer access to schools, and also to information and technologies (Gertler, Patrinos, and Rubio-Codina, 2006).

Sexism. A parent's decision to invest in education for their daughters is often compromised for some, mainly due to the unwillingness to allow their daughters to commute long distances to the school, or the risk they perceive in return of investment in their education due to the labour market discrimination and the lower-income for women. Parents' motivation to invest in their descendants is tied to the major capacity to afford economic support in their elderly age, thereby the perception that the son is more likely to provide for them is higher; generally they would prefer to invest in their male descendant's education (King and Hill, 1993).

Early pregnancies. It is considered as one of the main health issues in the country, with serious health consequences for young girls and impacting directly on their education, which generally gets interrupted. Every year, 340,000 girls under 19 years old give birth in Mexico, a country that ranks No. 1 in the list of the OECD in teenage pregnancy (INMUJERES, 2020).
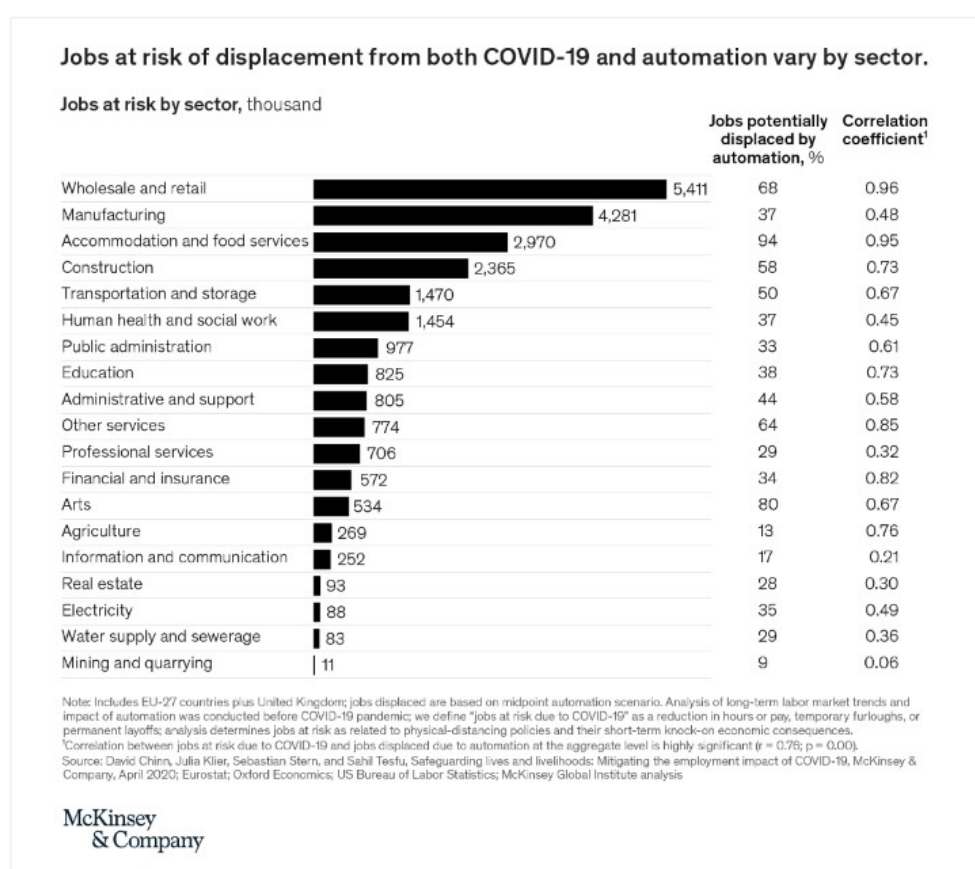
2.8 GENDER DISPARITY IN STEM FIELDS

There have been important improvements in relation to gender equality in Science, Technology, Engineering, and Maths (STEM) fields in Mexico, however, currently only 8% of women are choosing to study degrees related to STEM in Mexico, a distinctly small fraction compared with 27% amongst men (Rodriguez et. Al, 2016).

Historically, women have been left behind in most of these subjects, however, in the last decades there has been a slow but steady improvement in female participation, and they have been able to place a footprint in these fields, even reaching the top positions of such industries. Nevertheless, at the moment there are still barriers that maintain their segregation or exclusion,

holding back women's performance, and impeding their participation as decision-makers which would allow the growth and strengthening of the scientific community in Mexico. It is an issue that needs to be approached by both, educational and economical perspectives:

According to studies carried out by the McKinsey Global Institute and Oxford Economics (2020), it is estimated that up to 800 million global jobs could be displaced by 2030 due to automation, which could be accelerated by the pandemic COVID-19, and the most affected would be those without a tertiary degree, working in retail, manufacturing, accommodation and food services (McKinsey 2017).

Graphic No. 1 Jobs at risk of displacement.

Jobs at risk of displacement from both COVID-19 and automation vary by sector.

Jobs at risk by sector, thousand

Sector	Jobs at risk by sector, thousand	Jobs potentially displaced by automation, %	Correlation coefficient[1]
Wholesale and retail	5,411	68	0.96
Manufacturing	4,281	37	0.48
Accommodation and food services	2,970	94	0.95
Construction	2,365	58	0.73
Transportation and storage	1,470	50	0.67
Human health and social work	1,454	37	0.45
Public administration	977	33	0.61
Education	825	38	0.73
Administrative and support	805	44	0.58
Other services	774	64	0.85
Professional services	706	29	0.32
Financial and insurance	572	34	0.82
Arts	534	80	0.67
Agriculture	269	13	0.76
Information and communication	252	17	0.21
Real estate	93	28	0.30
Electricity	88	35	0.49
Water supply and sewerage	83	29	0.36
Mining and quarrying	11	9	0.06

Note: Includes EU-27 countries plus United Kingdom; jobs displaced are based on midpoint automation scenario. Analysis of long-term labor market trends and impact of automation was conducted before COVID-19 pandemic; we define "jobs at risk due to COVID-19" as a reduction in hours or pay, temporary furloughs, or permanent layoffs; analysis determines jobs at risk as related to physical-distancing policies and their short-term knock-on economic consequences.
[1]Correlation between jobs at risk due to COVID-19 and jobs displaced due to automation at the aggregate level is highly significant (r = 0.76; p = 0.00).
Source: David Chinn, Julia Klier, Sebastian Stern, and Sahil Tesfu, Safeguarding lives and livelihoods: Mitigating the employment impact of COVID-19, McKinsey & Company, April 2020; Eurostat; Oxford Economics; US Bureau of Labor Statistics; McKinsey Global Institute analysis
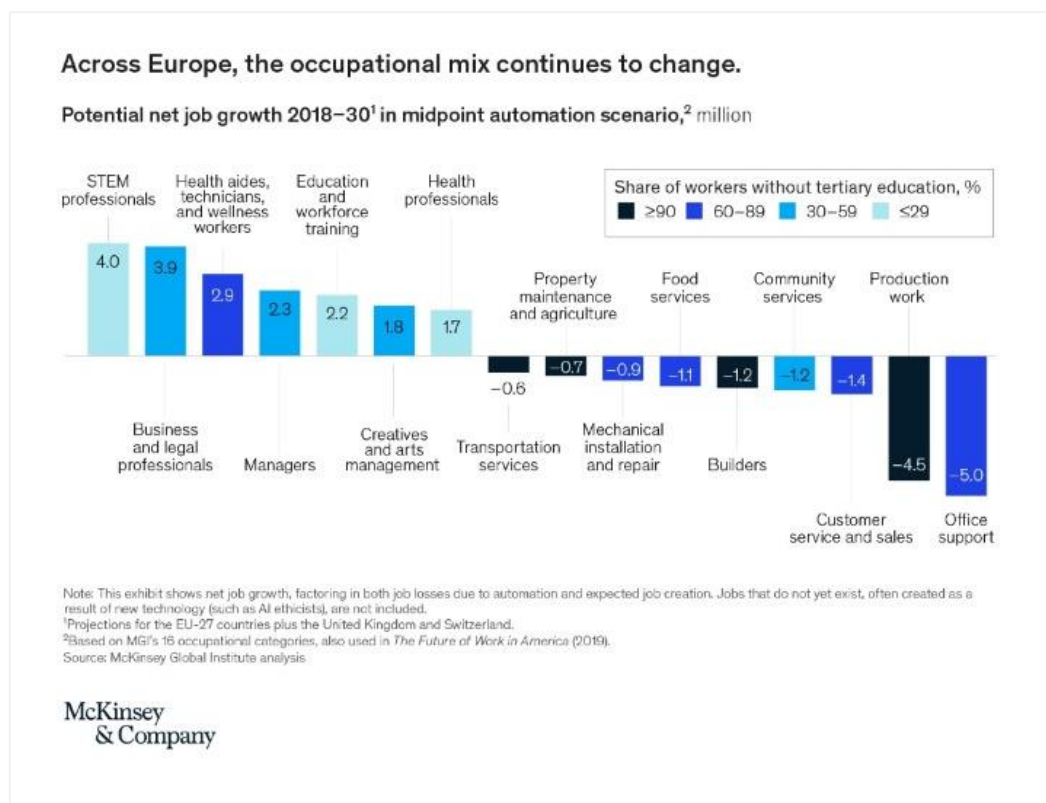
McKinsey & Company

In Mexico only, up to 25 million jobs are in risk of being displaced by automation, most of them in the main industry that Mexico's economy has relied on since the 1980's: manufacture.

In comparison to the USA, the figure is similar, up to a quarter of American jobs, equivalent to 20 million are at a high risk of automation, and the most affected, according to a study published by Brookings Institute (Muro, Maxim and Whiton, 2019) would be the low-wage young Hispanic males.

On the other hand, STEM occupations are forecasted to grow up to 20% in the coming decade -which are already short of supply-, along with other sectors, such as Health professionals, education and workforce training.

Graphic No.2 Occupational changes.

Based on this analysis, it can be observed that education is significantly correlated with the likelihood of being displaced by automation. In Mexico, as in the rest of the world, workers will need to gain different skills. In this context, and considering that women represent 51% of Mexico's graduates, it is important to analyse their career choices and the reasons or

motivations behind them, which are leading them away from the sectors with a considerable growing demand of talent.

In relation to the reasons behind the gender gap, many studies suggest that the gender gap in STEM fields could never be closed because it is the women living in the developed nations, leading the Gender Gap Index, such as Scandinavia, the ones that are showing less interest in STEM fields and are contributing to widening the gap, in contrast to the growing number of women in developing nations, who may choose a STEM subject driven by financial reasons. These statistics and the so-called 'Nordic Paradox', would contribute to the theory of biological determinism and the idea that equality of opportunities will not ensure equality of outcome (Stoet and Geary, 2018).

Nevertheless, it is also important to consider the other side of the Nordic Paradox, where an alarming increase of violence against women, including domestic violence, sexual assault and rape has been evident, placing these countries above the European average of IPV (Intimate Partner Violence) which is 22% in the EU, while Denmark's average is 32%, Finland 30% and Sweden 28%. In the specific case of Denmark, it is important to highlight the seriousness of the problem, in 2019 Amnesty International released an alarming report where it is described the existing and persistent culture of rape, it highlights the gaps in data collection, weak legislation, lengthy legal processes, lack of trust in authorities and the perpetuity of gender stereotypes that result in clear impunity for rapists (Amnesty International, 2019).

According to a study from the University of Southern Denmark, 24,000 cases of rape or attempt of rape were experienced by Danish women in 2017, but records show that only 535 cases were prosecuted and only 94 were convicted, which represents a shocking 4% of the total cases. Hence, high levels of gender equality contrasting high levels of IPV against women appear contradictory. According to the investigator Enrique Gracia, Professor in the Department of

Social Psychology at the University of Valencia, Spain "despite this paradox being one of the most puzzling issues in the field, interestingly, this is a research question rarely asked and one that remains unanswered". (Gracia and Merlo, 2016).

In relation to the pay gap, the Nordic countries remain near the EU average of 16%, and above other European countries like Italy and Luxembourg, who have managed to reduce the pay gap to 5%. About the leadership gap, important improvements have been made in the political area, however, the top positions in Danish corporations continue to be dominated by men.

A close analysis to these countries may suggest that, in principle, Scandinavia may be leading the world in gender equality practices, but in reality, gender stereotypes influencing people's behaviour in society are still far from being eradicated.

When considering other developed nations outside of Europe, such as the USA, in relation to women's career choices, it can be observed a steady increase of women's participation in STEM fields, nonetheless, it is important to highlight a curious behaviour in one of such fields: Computer Science.

It can be observed from the graphic below, that the share of women choosing Computer Science as a University degree rose steadily from the 1970's to 1990, women's interest in Computer Science grew so fast that they nearly became equal in number of University students to their counterpart, before it dropped dramatically in the 1990's, while other majors kept rising.

Graphic No. 3 Female majors by field of Study.

Exhibit 20

FEMALE MAJORS BY FIELD OF STUDY, US, 1965-2015
PERCENT

Law School
Medical School
Physical Sciences

Computer Science

" *The idea that computers are for boys became a narrative –
the story we told ourselves about the computing revolution –
it helped define who geeks were and created the techie culture*

SOURCE: Henn, 2014

Computer Science was a new invention, it had no precedent, it was unbiased, therefore, no social relation to one gender or the other, women who chose to study Computer Science chose freely, without the burden of social expectations or categorisations, it was a 'natural' choice. Yet, in the 1990's a major change in communications and the way of doing marketing would influence on settling Computer Science as a masculine field. (Henn, 2014).

Popular culture, movies and advertisements regarding desktop computers and videogames were targeted at men, the Gameboy appeared but they never launched a "Gamegirl" equivalent. Later, Google and Apple acted no different, and propagated and normalised the image of male programmers with a specific personality profile filling all the positions in these important, global companies, leaving no room for the female programmers who used to build the codes back in the 1970's.

Upon reaching adulthood, men and women have been "hardwired to draw interferences about the right and wrong gender with respect to different job types; this persistently precludes women from considering certain occupations through self-selection bias". (Subotnik, Olszewski-Kubilius and Worrell, 2014).

Previous research showed that women watching advertisements of a science conference, where the majority of participants were male experienced increased symptoms of stress and were less likely to express desire to participate in the actual event. (Murphy et. Al 2007).

Furthermore, new research suggests that the lack of confidence is the main reason behind the gender gap in STEM careers and leadership positions: "gender stereotypes can kill a woman's confidence, they can even cause women to question their own abilities; such lack of confidence would prevent them from competing in fields of Science, Technology, Engineering and Mathematics". (Bordalo, Coffman, and Shleifer, 2019).

A study performed by Samantha Ettus (2012) in the USA called "Does the wage gap start in kindergarten" assesses the outcomes of a test done to boys and girls from kindergarten. Ettus analysed the responses from the children to the question "What do you want to be when you grow up", the study revealed that whilst a number of boys answered "president" none of the girls gave that answer, Ettus alleges that the lack of ambition noticed in the study begins at home in an early age and that set mind continues during secondary and high school, having an impact in students' yearnings and career choices.

As mentioned before, there is plenty of work that needs to be done regarding biased attitudes and the perpetuity of a gender stereotyped structure that are impacting dramatically on both, men and women's behaviour and that are strongly attached to Mexican Society

The initiative of the Organisation for Economic Co-operation and Development (OCDE) and the Bureau of Public Education (Secretaria de Educacion Publica, SEP) STEM *"Girls CAN"*

have urged girls to pursue studies in areas of Science, Technology, Engineering, and Mathematics. Moreover, the impact of media and advertisement should be considered as an important factor that is influencing the imposition of stereotypes, social expectations, and the 'traditional' role imposed on women in Mexican society.

2.9 FEMALE LABOUR INSERTION IN MEXICO

In Mexico there exists a clear structural discrimination in which people do not necessarily complain about the abuse suffered, mainly due to an emotional response of embarrassment and frustration because they felt offended, but they assume that it is 'something normal' or common within their culture. Mexican workers usually endure these kinds of abuse committed against them because of a lack of information.

Even though these kinds of practices affect both genders, it can aggravate depending on people's age, economic situation, religious beliefs, or for being members of an ethnic group.

Companies that hire personnel should be conscious of the requirements for those interested in the vacancies and the parameters used to evaluate candidates, which should allow and ensure equal opportunities for the professional development of any person, regardless of their gender, or any other characteristic, within the company.

Mexico ranks third in the list of Latin American countries with the worst practices in women labour insertion, with only 43% of the female population over the aged allowed to work, actively participating in the economy (CONAPRED, 2019).

It was found by the CONAPRED (2019), that only one in ten indigenous women hired by a Mexican company had received a written work contract and statement of employment benefits,

which suggests that people do not have access to professional opportunities in the same circumstances.

Moreover, the system works differently for each person, for some privileged candidates, it might create advantageous opportunities by out casting some others from the possibility to have a dignified job with rights and benefits as the law stipulates.

This and other similar situations continue happening in Mexican companies, mainly due to a lack of an efficient system of law enforcement, and culturally, due to stereotypes and prejudices around certain characteristics about the job that could be perceived to be done by only a certain person or group of people with specific features or characteristics; these stereotypes are then transmitted to the recruitment process, professional development, and long-lasting permanence in the role. The mentioned practices are seen in some recruitment processes, in the form of requirements such as pregnancy certificates, certificates of non-HIV infection or other illnesses, or a photography in the curriculum vitae as a requirement for being considered in the recruitment process.

Along with the evident lack of equal opportunities between women and men, there also exists, as in the rest of the world, a dissimilarity in salary. The average monthly income in Mexico for full-time work for men is the equivalent to 235.24 euros, whilst women are roughly earning 203.08 euros, a 16% difference between the sexes; in essence, for women to be able to receive the same amount, they would have to work 35 days. (Forbes, 2019).

Furthermore, the main obstacle that is preventing a positive female labour insertion is household activity. According to an estimation from ENUT (Encuesta Nacional Sobre el Uso del Tiempo), it was indicated that the primary obstacle for women, is that they dedicate in average 30.8 hours weekly to care for the household members, which is unpaid work; in

monetary terms, considering a minimum wage, it is the equivalent to €1,523.40 annually, while men dedicate only 11.6 hours to this activity, equivalent to €575.57 annually. (Elceo, 2020).

2.10 MEDIATION AS AN INSTRUMENT TO RAISE AWARENESS

Mediation is a tool used for conflict resolution in situations where a third person facilitates the communication between two or more parties and assist them to find a solution that ultimately will satisfy their needs. In addition, mediation has a further impact after the process has finalised: this method of dispute resolution is also a learning process which overall contributes to improve interrelationship and the work environment. (Abramson, 2004).

From the existing dispute resolution instruments where a third party is involved, mediation is considered to be the method that may well have a positive impact on the creation of an active and responsible, equalitarian and diversified society. Mediation "when includes the multiple participants in a conflict promotes comprehension; when accept different version of reality, defends plurality; and when encourage decision making and commitment, contributes to democratic participation" (Weinstein, 2001).

In relation to its practice in Mexico, Conflict Resolution through Mediation and Negotiation, its federal regulation and validity could not be described as new concepts in the country. Mediation has been practiced since 1998, and according to records, the first state to reform its laws to include it, was Quintana Roo. On a federal level, in June of 2008, it was declared the reinstatement of every citizen's right to *alternative justice;* in accordance with section 17 of the CPEUM (Political Constitution of the United States of Mexico, 2015), "the law will provide alternative mechanisms for the solution of conflict and controversies", describing in section 18 "the mechanisms, methods and conditions for their correct implementation". Nevertheless, it is their potential of growth and recent proliferation what can be considered new, among

Mexican companies and citizens, who are often unaware of their existence and legality, believing that Arbitration and Conciliation (used since 1824 and declared in the Constitution of that year) are the only valid legal procedures for dispute resolution.

Mediation in general, is recommended as a method to resolve conflict in the workplace, mainly because of its numerous advantages, for all the parties involved, such as:

- Saves time and money.

- It is private and confidential.

- It reflects the interests of the disputing parties making the process equal and fair

- Relationships are preserved, which is especially important within family and business disputes.

- All parties retain the right to go to court if they are not happy with the outcome.

For the purpose of this study, and as mentioned before, a gender equality perspective and the importance of addressing this problem in Mexico, could and should be included in Educational Institutions and Mexican companies' practices and methods. It is by assuming this responsibility that current business owners and educational institutions Directors currently have, that a significant change can be applied in Mexican society.

However, as in any moment of history, when social and political change has been possible, conflict will inevitable arise; it can already be observed in the protests gaining force in Mexico City, which began with a non-violent protest of "A day without women" on 9th of March of 2020, which consisted of women not going to work or attending school for a day to demonstrate the importance of their participation; but after the ease of COVID restrictions, the gatherings have been taking place again and they have increased in violence and anger in the last demonstrations in response to the impunity and the authorities who remain unresponsive to the alarming growing figures of femicides, and the disturbing level of cruelty inflicted on the

victims, many of them children. According to the SESNSP (National System of Public Security), 10 women are murdered daily in Mexico, which shows an increase of 9% of femicides when compared to last year; yet, figures are suggested to be worse, according to journalists and activists who keep count independently, authorities might not be including or classifying many of the murders are femicides, therefore, giving incorrect numbers. (El Universal, 2019).

These events possibly and optimistically will be a catalyst to achieve a better judiciary system, law enforcement and changes in legislation.

However, to be able to make a substantial change in culture and society, at an organisational and cultural level, companies and educational institutions should also be prepared to take part in this process and willing to contribute in their communities, making positive changes at their level and also be prepared to eventually having to manage conflict.

Considering the advantages mentioned before, mediation and the positive growth potential that it presents, it could be considered as one of the most effective methods to prevent and resolve conflict in an effective and efficient manner in gender equality issues.

Mediation at an educational level could be used as a tool to resolve and prevent conflict, but also to educate people from a young age about the importance of equal civil rights, gender equality and to eventually prevent the worst forms of sexism, which translates into violence.

Implementing mediation in schools may well contribute to creating a more peaceful and constructive environment where children would develop interpersonal abilities, confidence, and self-esteem and ultimately eradicate prejudices and stereotypes.

At an organisational level, mediation can be used to prevent sexism behaviours and practices, to ensure availability of information and equality of opportunities for everybody, regardless of their gender or sexual condition and the equal development of talent which will translate into

more valuable assets for the company and professional/personal fulfilment for every person interested in professional or financial development. Recommendations will be made in Chapter 5 in this regard.

2.11 OVERVIEW

Education and social stereotypes eradication are key factors in the future development of a healthier and fairer Mexican society; it is crucial to raise awareness of the relevance of the effects of gender stereotyping in the early stages of life of both, females and males, by improving the content of core institutions such as homes, schools, society and nowadays, social media and multimedia content; 'pouring correct information into people's minds' consciously or unconsciously, focusing on the consequences of those prejudices, and how they influence women's professional development, which is crucial for the optimal development of people's potential, and which will eventually be reflected in the work force and communities development.

In relation to the resolution of current disputes, and in order to resolve and try to prevent conflict at organisational and educational levels, Mediation has been proposed as a method to assist Organisations and Educational Institutions to reach a more informed and fair society in this regard.

CHAPTER III

RESEARCH METHODOLOGY AND RESEARCH METHODS

3.1 INTRODUCTION

This chapter provides a comprehensive introduction to research. It contains a detailed description of the different elements that were fundamental for the correct development of this research study: research design, methodology (including reliability, validity, analysis and management of data collected according to research methodology), instruments and procedures.

It also includes an explanation of the research methodology selected to be utilised in this study as the means to collect data from primary research: a quantitative approach was selected as the most appropriate methodology, which, considering the complexity of the subject and the scope of the study, would facilitate the researcher to collect larger amounts of information and to analyse relevant data, facts, figures and trends.

Relevant data gathered from primary research would allow the researcher to identify the dimension and the factors influencing gender stereotyping in Mexican society and its impact on women's career choices and professional development, which presents itself as a conflict between society's expectations based on gender, and people's self-identities, which often differ from each other and which will be thoroughly analysed in this paper, in order to meet research objectives, to finally disprove or validate the hypothesis described in this study.

In relation to the research objectives and in order to obtain more clarity, precision and relevant data, the research was focused on one identifiable group: Graduates, undergraduates or young

professionals over 18 years old. The justification for it is later described in this chapter, and the description of participants is included in Appendix No.1 Data Presentation.

Furthermore, validity and reliability of data and the limitations of the study will also be included in this chapter.

3.2 RESEARCH DESIGN

Research methodology is generally defined as "the specific techniques or procedures used to identify, select, process and analyse information about a specific subject; according to Mingers, (2001), it is also "a set of structured guidelines or activities to assist in generating valid and reliable results".

Furthermore, Saunders et al. (2009), includes in the research process 5 steps or "layers" which refer to the systemised identification of:

- Research Philosophy

- Research approaches

- Research strategy

- Time horizons

- Methods to collect data

This process was developed by Saunders et al (2009) and was graphically represented as an "onion model".

In order to increase the rationality of the research process, the research onion model was adopted in this study. This model would involve all processes, from the research philosophy to data collection and data analysis. See Figure 1 Onion Model.

Figure 1. Onion Model.

3.3 RESEARCH PHILOSOPHY:

According to Mingers and Brocklesby, (1997), research philosophy refers to "the overall framework used to look at reality, based on a philosophical stance", e.g.: Positivism, Interpretivism, Realism, Interpretivism, Objectivism, Pragmatism or Constructivism. Reality is perceived and described through these models in the form of ideas or concepts, which will be identified in this process, along with the conditions in which the research will be carried out; consequently "the perception and understanding of surroundings would be highly dependent on the level of knowledge that the researcher possesses with a wide range of concepts". (Creswell, 2003).

Furthermore, research philosophy refers to the identification and description of events or situations that exist and have not been studied before, which would provide an understanding or interpretation of such events given by individuals. (Maylor and Blackmon, 2005).

3.4 RESEARCH STRATEGY / APPROACH

Deductive and Inductive approaches are generally regarded as the two main methods of reasoning in research. Evans and Over, (2013) indicates that "the terms deduction and induction are, in their own right, important to an understanding of theory construction". The main difference between the two is the opposite direction of reasoning in which they move.

Figure 2. Inductive and deductive research, hill climbing.

Aqil Burney, S. M (2008). Deductive Vs. Inductive

(Burney, 2008).

3.4.1 INDUCTIVE RESEARCH APPROACH.

This approach is usually associated with qualitative methods and focuses on exploring new phenomena, where a new theory emerges from the generation of new data, or by using a different perspective to look at previous research. Saunders et al. (2007)

suggests to implement this method in research projects only if "the phenomena to be investigated has not been previously explored, or little research exists".

Inductive research generally starts with a research question or specific observations and then moves to a broader generalisation (observation and description to analysis) to finally provide conclusions or a theory based on grounds or assumptions. Glaser and Strauss, (1967) also refer to Inductive approach as "grounded theory", which requires the researcher to keep an absolutely open mind; in this context, it is crucial that no preconceived or predetermined ideas are kept or formed of what the outcome will be, in order to be able to generate a new theory based entirely on the new data, which should also be studied and analysed multiple times in order to test and propose such new theory.

3.4.2   DEDUCTIVE RESEARCH APPROACH.

Contrary to the Inductive Approach, a Deductive approach is aimed at testing theory and are emphasised on causality. It starts with a hypothesis, statement or question that is believed by the researcher that can be answered or concluded with a yes or no response.

The process of a Deductive approach is opposite to that of an Inductive Approach, it starts and moves from theory to the research question, to data collection, assessment of findings, until a rejection or confirmation of the research question is produced.

According to Robson, (2002), "Deductive Approach leads onto a revision of the theory and often starts the process again"; accordingly, Saunders et

al, (2012), suggests that "the deductive approach is based on scientific research that helps the researcher to test hypothesis from past theories, to compare them, and present findings", Bryman & Bell, (2015) added that "the deductive approach is a common process that puts social science theories into practice".

Generally, inductive approaches are more commonly associated with qualitative research, while deductive approaches are usually associated with quantitative methods, however, in some cases, quantitative studies may have an inductive orientation and vice versa.

For the purpose of this study and considering the nature of the research, a deductive approach has been selected as the most appropriate strategy of research; in this case, a hypothesis specified in the research question will be explored and tested in order to confirm or reject a theory. The theory of gender stereotyping and social constructivism influencing Mexican women's career choices and professional development will be objectively assessed and validated or refuted, by analysing and contrasting secondary research (literature review on previous research), with primary research (data collected from primary research referred to attitudes and perceptions towards gender bias), from two perspectives: social perception and own abilities beliefs. Data collected from primary research will be analysed and compared with previous hypothesis on human nature (biological determinism) and gender stereotyping (social constructivism), which will facilitate the researcher to make conclusions and recommendations.

It is not intended to generate new theories during this research, but to test existing theories, address the research objectives and provide an answer to the research question.

3.5 RESEARCH METHOD

There are two main types of research methods (Creswell, 2003):

3.5.1 QUALITATIVE METHOD.

It is a research method that does not rely on numerical or structured data, it is often used in social research to describe in detail events, facts, situations, behaviours and interactions observed during the course of the study. It is defined as "the systematic, rigorous investigation of a situation or problem in order to generate new knowledge or validate existing knowledge", it is also considered as the interpretive, naturalistic, constructivist, post positivist method by Wittgenstein, Dithey, Kant, Foucault, Miles and Huberman, (Rosenthal, and Rosnow, 1991).

3.5.2 QUANTITATIVE METHOD.

Contrary to the Qualitative model, this method focuses on the use of advanced mathematical and econometric valuation models to identify the forms with the best possible viewpoints. It is considered to be the "traditional, empiricist or experimental model" by Comte, Mill, Durkheim, Newton and Locke. (Campbell, R. 2012).

As mentioned before, a validation of existing knowledge is being anticipated in this study; in this context, and attending the nature of the topic, the strategies employed and the philosophical choices, primary data will be collected using a single method (quantitative method). By employing this method, the researcher will be able to quantify and analyse opinions, attitudes, behaviours and make conclusions and statistics based on a larger population. It is also intended to minimise bias from the participants, by offering anonymity and confidentiality, the participants will be guaranteed that they will not be personally identified through their responses, this is in order to be able to provide an accurate answer to the research question and

objectively explain the reasons behind gender gap in STEM careers and in leadership positions in Mexico.

A quantitative method (survey research) is aimed at analysing and understanding the opinions, attitudes and experiences of Mexican people towards gender stereotypes, and its influence in gender disparity in STEM careers and at the workplace, in leadership positions. By gathering a greater number of participants, this method would allow the researcher to a obtain a better perception of people's attitudes and behaviour, with concentrated precision, which would be then in a position to answer the main question about the "how many", in order to present findings in an accurate manner and validate hypothesis.

Statistics and comparison of figures based on gender will be used to identify similarities and discrepancies among participants, to enumerate how many respondents would be aligned with what is socially accepted or expected from both genders (from a social perspective) and how many of them could not be categorised as being stereotypical conducts or behaviours (own's abilities beliefs). The results would provide numerical data that can be analysed statistically to validate or disprove the hypothesis that misled perceptions may exist and may be influencing Mexican women's career choices and their professional advancement.

3.6 TIME HORIZONS

"Time horizons are needed for the research design independent of the research methodology used, and they refer to the specific point of time in the future at which, certain processes, or studies will be evaluated or set to end". Saunders et al., 2007

Generally, two types of time horizons can be applied to both methods of research (qualitative and quantitative):

- **Cross-Sectional.** It refers to measurements or observations of certain behaviours and events, while comparing different population groups at a single moment in time and by using concentrated samples that are limited to a specific time frame.

- **Longitudinal:** It refers to measurements or observations of certain behaviours and events, which are repeated over an extended period of time, sometimes lasting many years.

Due to the nature of this study and the limited time frame to which this research was subject to, a Cross/Sectional approach was selected as the most appropriate time horizon to be employed.

3.7 DATA COLLECTION AND DATA ANALYSIS

For the process of primary research and considering the nature of the subject, online surveys were used as the main method to collect data; the purpose of this was to target a larger group of people, with the appropriate characteristics previously described, in order to collect all the relevant information about the causes and factors impacting and influencing in the gender gap in STEM careers and leadership positions in Mexico.

Surveys were made, distributed and documented using online resources, such as survey apps and social media, with a length of 5 minutes maximum.

The questionnaire was designed based on previous research, findings and studies described in Literature review in Chapter 2 and was appropriately prepared and structured under supervision. The purpose was to gather sufficient data to be able to compare and contrast the opinions of the participants, including the two perspectives creating the conflict (social and individual), in order to validate or refute the hypothesis described in the research question,

provide recommendations and make recommendations. See Appendix 2. Survey about perceptions and gender equality with rationale.

3.7.1 SAMPLES, TECHNIQUES AND PROCEDURES: DATA COLLECTION AND SURVEYS.

According to Saunders et al., 2007, the sampling techniques are classified into:

- **Non-probability sampling.** In this case, the probability of being selected is unknown. This type of sampling is at the same time divided into 5 types: Quota, Snowball, Self-selection, Purposive and Convenience sampling.

- **Probability sampling**: With this technique, each element's probability of selection is the same for all cases**.**

Sampling data collection is different in proportion, depending on the research method; while quantitative research is associated with larger samples, qualitative research tends to focus upon small samples. (Hogan, J, Dolan, P, and Donelly, P., 2009). Qualitative research is often considered "multimethod in focus, it involves an interpretive, naturalistic approach to its matter, as an attempt to gain an in-depth understanding of a phenomenon, but recognising that objective reality can never be captured" (Denzen, Lincoln, 1994).

Considering the nature of the topic and the interest of the researcher to focus on particular characteristics of the participants, a Non-probability, purposive sampling method was used. The sampling size and subjects selected for analysis were thought to be representative of the population of interest for the researcher; the characteristics of subjects should include: being Mexican nationals, being adults over 18 years old and

have Secondary education, as a minimum. The sampling size, population and their characteristics are described in Appendix 1. Data Presentation.

The survey was structured as a questionnaire, divided in 4 sections: the first section consists of simple demographic and general questions to be able to properly classify the data, the second section is a survey of self-identification with gender stereotypes based on a list of adjectives, looking to evaluate how well they self-identify according to social expectations; the third section is a multiple choice questionnaire, requesting the participants to evaluate the occupations list, expressing their opinion on genders abilities and aptitudes, and the third section is a Likert scale questionnaire, which is based on personal experience, and is looking to evaluate people's opinions and feelings by asking them to indicate to what extent do they agree or disagree with the situations given.

A sample of 130 respondents participated in the process of research, all the participants meet the established requirements.

3.7.2 VALIDITY AND RELIABILITY.

Validity and reliability are the 2 main factors that should be considered when developing the survey questions, as they will ensure that research data will be of value and use.

3.7.3 RELIABILITY OF THE DATA COLLECTION METHOD.

Reliability refers to the repeatability of findings; data is considered to be reliable when tests on the same subject are done a number of times and the results are always the same. (Rosenthal and Rosnow,1991).

In order to confirm that the information is reliable, the researcher should measure the data and results of primary research and repeat the method several times (test-retest method). (Bryman and Bell, 2013).

Nonetheless, given the limited time frame provided for the development of this study, this method was excluded.

3.7.4 VALIDITY OF THE DATA COLLECTION METHOD.

It refers to the believability or credibility of the research.

This method, which applies to quantitative rather than qualitative approaches, is based on evidence, which will support the interpretation of findings to be explained in a correct or accurate manner. (Moskal & Leydens, 2002). Such findings or results should be truthful and provide sufficient information (Joppe, 2000).

Important quality of data is involved in this method, which should be analysed and evaluated using valid and reliable qualitative methods.

The survey's questions and analysis of responses are founded on a theory basis and secondary research which includes previous research on similar topics or of similar nature.

The structure of the questionnaire is easy to read and understand and it was strategically created to cover all requirements to address research objectives.

For the correct development of this research, both types of data, Primary and Secondary were required:

- **Primary Data.** Primary data can be defined as "data obtained from the primary research of a subject through firsthand investigation". (Clark, R., 2005). Considering the nature and purpose of this study, online surveys were used as the main method to collect primary data. All information was gathered by the researcher by distributing surveys through online resources, by asking the participants about their professional and personal ambitions, attitudes, opinions and perceptions in relation to the research topic. The survey was structured in order to answer the research question and address research objectives from this study.

- **Secondary research** is defined as "the examination of studies of other researchers and its sources include books, articles relevant to the topic, scientific debates and other literary works". (Stewart, D and Kamins, M, 1993). Secondary research in this study includes the most recent and relevant information from sources such as books, articles, journals and studies relevant for the development of this research; the researcher analyses, compares and contrasts different interpretations, opinions and realities to measure situations. All secondary sources have been properly referenced in this study.

The researcher will evaluate, through descriptive analysis of research findings, how Mexican graduates perceive different factors influencing the gender gap in STEM careers and impacting in the workplace, specifically in professional development and the leadership gap in Mexico, and how it may be closed.

All data collected will be analysed and evaluated using the philosophies, theories and strategies described before.

3.8 OVERVIEW

An explanation of the quantitative methods employed to gather and analyse primary data was provided in this chapter. Such results will be further described and illustrated by using tables and charts accurately representing participants' responses, included in the following sections of this research. For the purpose of this study, and in order to answer the research question and research objectives, only Mexican citizens who live or studied in Mexico were involved in this analysis.

Relevant information was obtained by the researcher in order to test and interpret the secondary data described in literature review in chapter 2. Primary data allowed the researcher to identify important elements influencing the gender gap described in the research question, by testing and contrasting the two main perspectives: social constructionism and individual abilities and beliefs.

The use of descriptive research facilitated the researcher to analyse primary and secondary research, to explain the variables and the reasons behind the conflict.

Even though findings may also be compared with previous studies, such studies should not indicate or predict the results and findings to be obtained in this research.

The research model used to structure this study was intended to provide a well-defined approach to research, to guarantee that the research question was accurately answered, and the research objectives were properly addressed. Results and findings will enable the researcher to finally provide conclusions and recommendations

CHAPTER IV

RESEARCH FINDINGS, DATA ANALYSIS AND DISCUSSION

4.1 INTRODUCTION

This chapter presents a discussion of findings based on primary data collected by the means described in Chapter 3, Research Methodology. The data collection method used, as mentioned before, were surveys, which were sent online, with a total of 130 respondents: 77 women and 53 men, the majority of them are University graduates, and the group ages ranged from:

Ages 21-30 = 55 respondents

Ages 31-40 = 64 respondents

Ages 41-50 = 9 respondents

Over 51 = 2 respondent

The survey was structured as a questionnaire, divided in 4 sections: the first section consists of simple demographic and general questions to be able to properly classify the data, the second section is a survey of self-identification with gender stereotypes based on a list of adjectives, looking to evaluate how well they self-identify according to social expectations; the third section is a multiple choice questionnaire, requesting the participants to evaluate the occupations list, expressing their opinion on genders abilities and aptitudes, and the third section is a Likert scale questionnaire, which is based on personal experience, and is looking to evaluate people's opinions and feelings by asking them to indicate (from 1 to 5, where 1=Nothing and 5=Very much), to what extent do they agree or disagree with the situations given.

All the responses were considered, results were analysed, compared and contrasted with previous studies and theories described in Chapter 2, Literature Review, in order to address research objectives, provide an answer to the research question and validate or disprove the hypothesis.

4.2 DATA ANALYSIS AND DISCUSSION OF OBJECTIVE NO. 1
To identify discrepancies and convergences of the two perspectives considered in this study: gender stereotyping (social perception) and self-identity or own abilities beliefs.

This section reviews evidence on the content and nature of gender stereotypes and self-identification, how these reflect on gender differences and their influence on life outcomes.

In order to address this objective, participants were asked to rate a list of adjectives and indicate how much did they identify with each one of them. The aim was to evaluate, based on self-identification, how many respondents would be aligned with the characteristics that are socially attributed or expected from each gender, and how many of them could not be categorised as being stereotypical conducts or behaviours (own's abilities beliefs).

It is important to highlight that stereotypical expectations "not only reflect existing differences, but also impact the way men and women define themselves and are treated by others" as "they are not conscious choices that can be individually accepted or refused". Gender stereotypes can also affect people's interpretations and descriptions about themselves and others. (Ellemers, 2018).

Nevertheless, primary research carried out during this research, show a significant number of counter stereotypical conducts, which can be observed in the graphics 4, 5, 6 and in Appendix. Data Presentation, which includes a full description of responses.

As previously discussed, and according to stereotypic beliefs, women are expected to be more communal, caring, compassionate and helpful, while men are expected to be leaders, competitive and aggressive (Eagly and Steffen, 1984, Heilman, 2012).

Conflicting with what is socially expected, it was found that a greater number of male respondents identified themselves as kind, friendly, submissive and vain, compared to a smaller proportion of females who identified as such. Kindness, friendliness and vanity show the largest margins. See graphics No. 4, 5, 6 and 7.

Graphic No. 4 Kindness.

Graphic No. 5 Friendliness.

Graphic No. 6 Vanity.

Graphic No. 7 Submission.

When assessing the perception of women being natural carers and devote mothers, the data shows that a larger proportion of female respondents considered themselves family oriented people (See figure No. 8 Family oriented person); however, when they were asked if they enjoyed looking after children, the difference was minimum, and almost equally spread between the genders and across the options. (See graphic No. 9 Childcare).

Graphic No. 8 Family oriented person.

From the people who enjoy looking after children much and very much, there is a difference of only 3 percentage points of women over men, but it can also be observed the same difference in the number of women who said they dislike it, with a difference of 3 percentage points of women over men.

Figure No. 9 Childcare.

Furthermore, when assessing work life balance, participants were asked if they would like to cut their hours at work so they could spend more time with their family; 32 respondents said

no, the majority of them female (24) and 98 respondents said yes, the majority of them male (83%).

Graphic No. 10 Less work, more time with the family.

LESS WORK, MORE TIME WITH THE FAMILY

In relation to ambition, leadership, competitiveness and bravery, traits that are socially expected or attributed to men, data shows an exact equivalence of women and men who consider themselves ambitious in the same levels at every category given. See graphic No. 11 Ambition.

Graphic No. 11 Ambition.

Similarly, when assessing leadership traits, an exact equal amount of female and male consider themselves good or very good leaders.

Graphic No. 12 Leadership

However, when assessing competitiveness and bravery, there is a difference of 5 and 6 percentage points of men over women who consider themselves competitive and brave. See graphics No. 13 Competitiveness and No. 14 Bravery.

Graphic No. 13 Competitiveness.

Graphic No. 14 Bravery.

Other personality characteristic that were included in the survey were determination and nervousness, the last ones often associated with a lack of confidence and doubt or distrust in own's abilities. It can be observed a slight margin of women over men feeling identified as much or very much a nervous person, while men outnumbered women who felt neutral about it, but being outpaced by women who felt little to nothing identified as such.

Graphic No. 15 Nervousness.

In relation to determination, there is a difference of 4 percentage points of men over women who consider themselves highly determined people.

Graphic No. 16 Determination

In a different section of the questionnaire, participants were asked if they thought that girls' skills and interests were either socially developed or biologically determined; 110 respondents indicated that they thought they were socially developed, while 20 people expressed that they thought were biologically determined. See graphic No. 17. Girls' Interests.

Graphic No. 17. Girls' interests.

Participants then were asked if they thought that boys' skills and interests were socially developed or biologically determined; 113 respondents indicated that they thought they were socially developed, while 17 people expressed that they thought were biologically determined.

Graphic No. 18 Boys' interests.

BOYS' INTERESTS

Biologically
determined
13%

Socially
developed
87%

It is interesting to note that 3 participants changed their opinion, depending on the child's gender.

Participants then were asked if they would allow their daughter to play football or with cars; 126 people said yes, while 4 people said no, from which 3 were females (4%) and 1 was male (2%).

Graphic No. 19 Girls playing football/with cars.

GIRLS PLAYING FOOTBALL/WITH CARS

NO

■ YES
■ NO

YES

Participants were also asked if they would allow their son to play with dolls or dance ballet; to which 114 people said yes, while 16 people said no (a larger number compared to those who said no to the previous question); from those, 10 were males (19%) and 6 were females (8%).

Graphic No. 20 Boys dancing ballet/playing with dolls.

BOYS DANCING BALLET/PLAYING WITH DOLLS

It can be observed from the last examples that men are especially inflexible when it comes to allowing their male children move away from what is socially expected and accepted.

4.2.1   OBJECTIVE 1. OVERALL RESULTS/FINDINGS:

In this part of the exercise, examples of personality traits and self-identification were tested against gender stereotypical expectations, looking to identify existing differences. It was found that while some data might account for male and female stereotypical conducts -which might be a result of gender stereotypes influencing the way people remember information about themselves and others- the majority of the evidence supports the hypothesis that self-identity or own abilities beliefs differ at a great extent and frequently contradict social stereotypical expectations.

One of the major findings are the ones related to work-life balance and family-oriented behaviour, where men expressed more interest in sacrificing work for their families compared to women, with a significant margin of 14 percentage points. It is also confirmed in Section 3 of this chapter, when participants were asked to indicate what symbolised success for them, and women mentioned "financial stability" and "professional development" as the most important factors, while placing "having a family" in 5th position.

These findings contradict the hypothesis of biological determinism proposed by Prof. Jordan Peterson, 2002, who suggested that the gender gap in leadership positions was not a consequence of social structure, but "nature itself", where a woman's priority will always naturally be to choose family over work. According to his theory, it is "a woman's decision to exchange the imminent bigger responsibilities of a potential promotion at work for the natural desire of having a family". Nonetheless, the majority of women participating in this research have expressed the opposite.

Another major finding was the identification of a tendency of more rigorous inflexibility from male parents towards their male children when they express counter stereotypical conducts, which play an important role in the development of people's personalities, especially at a young age.

It can be concluded that personality traits, abilities and skills should not be expected from, or attributed to people based simply on their perceived gender or sex, but on individual performance, knowledge and skill development.

4.3 DATA ANALYSIS AND DISCUSSION OF OBJECTIVE NO. 2

To understand and identify the social and cultural barriers to gender equality in Mexico, the reasons behind gender disparity in STEM subjects and the barriers that are keeping women from reaching top positions in Mexico.

The definition of STEM varies by organisation, especially in the field of health sciences, which comprise Biology, Biochemistry, Biophysics, Genetics, Anatomy, Physiology. For the purpose of this study, the researcher has arranged the subjects in two major groups: STEM fields, which include the previously mentioned Sciences, Technology, Engineering and Mathematics; and HASS fields, which include Humanities, Arts and Social Sciences.

Section 1 and 4 of the questionnaire included a number of questions aimed at assessing people's career choices and career development, the results were the following:

According to responses, the majority of people graduated from HASS related fields (67%):

Graphic No. 21 Graduates by field.

GRADUATES BY FIELD

DID NOT SAY 2%
STEM 31%
HASS 67%

■ HASS ■ STEM ■ DID NOT SAY

From the total of respondents, 52 females (67.5%) and 31 males (58.5%) studied subjects in HASS fields (Humanities, Arts and Social Sciences).

In relation to STEM fields, only 22% of females (17) chose STEM related subjects, compared to a greater figure of 43% of males (23) who chose to study a STEM related subject.

Together they represent 31% of the graduates in STEM.

5% failed to indicate their field of study.

Graphic No. 22 Career choices.

CAREER CHOICES

■ WOMEN ■ MEN

However, participants were later asked to decide if they would change their career selection if they could go back in time; an astonishing number of females (48), which represents a 70% of the total of female graduates said yes, while only 15 men said the same. This suggests that nearly 8 out of every 10 people who regret their career choices are women.

Graphic No. 23 Career change share.

CAREER CHANGE SHARE

■ Women ■ Men

24%

76%

When asked to indicate which subject they would like to change to, if they could, the following

trends were observed:

Graphic No. 24 Women and men on HASS.

WOMEN AND MEN ON HASS

■ BEFORE (ACTUAL)   ■ AFTER (HYPOTHETICAL)

67.5

54.5

58.5

57

WOMEN ON HASS   MEN ON HASS

Graphic No. 25 Women and men on STEM.

The number of women enrolled in HASS subjects would be reduced by 13 percentage points, which is a significant decline, reflecting directly on STEM subjects, which would present an increase of the same percentage.

Men enrolling in STEM fields would also increase 2 percentage points, which, combined with women, would bring a total increase of 10%, going from 31% to 41% of students graduating from STEM subjects.

In the case of men, the variances are not significant, but it can still be observed that the dominance of HASS subjects would not switch to the male population.

Graphic No. 26 STEM and HASS comparative.

In relation to leadership and negotiation skills, it was previously mentioned that men and women identified themselves with the same high level of leadership and ambition, however, when asked if they had ever negotiated their salary or a promotion in their current or previous job, a difference in practice is revealed: 37 men (70%) said yes, while a smaller proportion of women (64%) said the same. See graphic No. 27 Negotiation of salary and promotion.

Graphic No. 27 Negotiation of salary and promotion.

Participants were asked to indicate if they believed that men were more emotionally qualified to be leaders. The majority, 117 respondents (87%) said no and 13% said yes, from the respondents who said yes, 8 were female and 5 were male.

Graphic No. 28 Men more emotionally qualified for leadership.

Nevertheless, when participants were asked if in the short or long term, they would like to occupy the top position in their companies; a greater proportion of men (39 men, equal to 73.5%) compared to 50 women (65%) said they would.

Graphic No. 29 Occupy top position.

Lastly, participants were asked to indicate what meant for them to be successful in life. The majority of respondents (31%) indicated that financial stability was the most important factor when deemed success, followed by professional development (21%), then a significant number of respondents indicated that it was a combination of them all, or some of them (20%), followed by owning a successful business (20%), having a family (7%) and the last 5% gave different personal answers, such as reaching happiness through different means, mental health, live in peace with nature, among others. (See graphic No. 30 Success in life).

Graphic No. 30 Success in life.

SUCCESS IN LIFE

The following graphic is a comparison of genders based on previous answers. It can be observed that financial stability would be the main factor that represents success in life for both sexes, followed by professional development in women, and "other" or personal goals for men.

Graphic No. 31 Success in life by gender.

SUCCESS IN LIFE BY GENDER

4.3.1   OBJECTIVE 2. OVERALL RESULTS/FINDINGS:

In this part of the exercise, data analysis in relation to career selection and career development was analysed.

While a reduced participation of women in STEM fields was expected, the data revealed an unanticipated phenomenon, which is the high level of regret in women's career selections.

An astonishing 62% of the female respondents expressed their desire to change their career, compared to a 28% of the total male respondents. These figures suggest that 6 of every 10 female graduates in Mexico are making wrong choices in their career selection, which they later regret, impacting directly on their career development and financial situation.

By analysing the trends of their hypothetical career switch, an increase of 13% of female participation in STEM fields could be observed, which, if addressed on time, would be especially beneficial for the Scientific community, while making a significant contribution to the Mexican economy, as previously discussed.

This is a phenomenon recommended for future research on women's career choices and their apparent lack of interest in STEM fields, which can be explained by a lack of information and encouragement to recognise their talents and abilities during their formation, and before they decide to follow a path that is socially expected from their gender, but that might not be suitable for them, as individuals with their own skills, talents and interests.

The results of this exercise, along with vast amounts of evidence in research support this theory and the proven fact that gender stereotypes influence people's career choices and professional advancement, resulting in fewer women occupying top positions and choosing STEM careers. Gina Gerdeman, 2019, (HBS).

In relation to the leadership gap, ambition and leadership traits were equally evaluated by both genders, attributing themselves with equal high levels of leadership and ambition. However, when evaluating situations when they had to express if they had put them into practice, men showed a higher level of validation in negotiation of salary, promotions, and eagerness to occupy the highest positions.

This results would align with what is socially expected, in relation to salaries and promotions: men are the negotiators, while women are more likely to simply accept the job offer with the salary and under the conditions that have being communicated.

Nevertheless, it is also important to highlight the negative connotations and the double standard applied to both genders, particularly in relation to assertiveness and aggressiveness in the workplace: there is a 'social punishment' attached to being a persistent woman that is constantly regarded as being aggressive, often receiving offensive adjectives, while for men, the same characteristic is often seen as having a strong character and potential for a good leader.

Furthermore, this research recognises social stereotyping as an important factor influencing and impacting significantly on the development of people's personalities and choices. In the specific case of women, social constructs and expectations may result in a lack of confidence built over the years, being it the main reason behind the gender gap in leadership positions. As Katherine Coffman, 2019 suggests: "gender stereotypes can kill a woman's confidence, they can even cause women to question their own abilities".

4.4 DATA ANALYSIS AND DISCUSSION OF OBJECTIVE NO. 3

To demonstrate the influence of cultural barriers and social constructs on Mexican women's choices and their formation.

As previously mentioned, traditionally and historically, roles performed by women have remained submissive and amenable, they tend to dominate caring and reproductive roles, such as nursing, teaching, office assistance, etc., while men are encouraged to be strong leaders, and to pursue their careers to reach top level positions in all fields, including those in Science, Technology, Mathematics and Engineering. This phenomenon has been also demonstrated in Section 3 of the questionnaire, where participants were asked to indicate from a list of occupations if they thought that women, men, or both were equally qualified to perform each one of them. Results are as follows:

- **Human resources.**

From the 38 respondents who think that women are more suitable for the job, 24 were female respondents (63%), which is the majority of responses attached to gender bias.

Graphic No. 32 Human Resources.

- **Civil engineering.**

From the 42 respondents who think that men are more suitable for the job, 25 were female respondents (59.5%), which represents the majority of responses attached to gender bias.
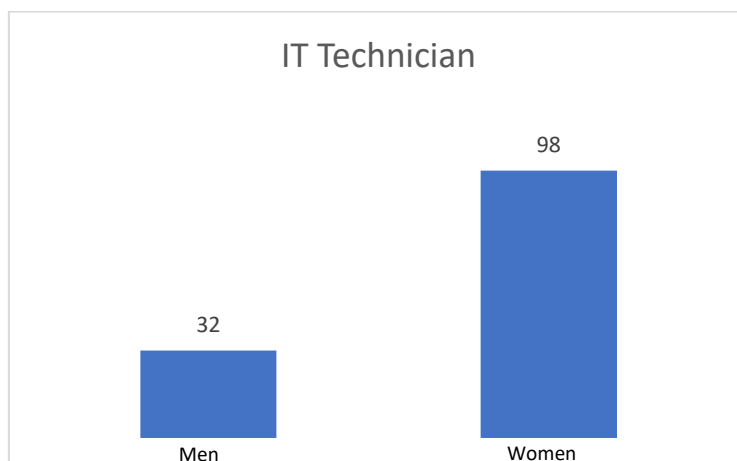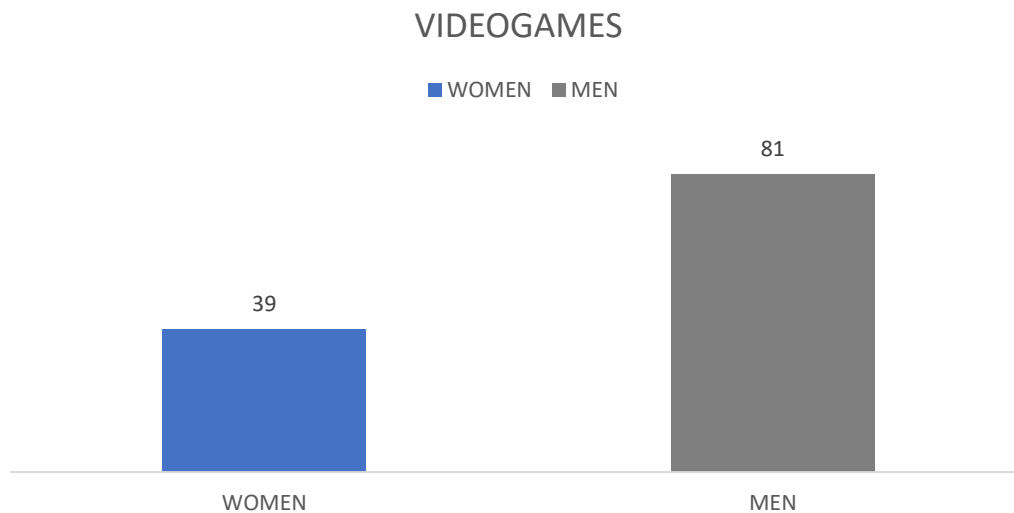
Graphic No. 33 Civil Engineers.

Civil Engineering

■ Total

42	85	3
Men	Both	Women

- **Nursing.**

From the 44 respondents who think that women are more suitable for the job, 27 were female respondents (61%), which represents the majority of responses attached to gender bias.

Graphic No. 34 Nursing.

Nursing

86	44
Both	Women

- **Carpentry.**

From the 75 respondents who think that men are more suitable for the job, 44 were female respondents (59%), which represents the majority of responses attached to gender bias.

Graphic No. 34 Carpentry.

Carpentry

75	54	1
Men	Both	Women

- **Security guard.**

From the 75 respondents who think that men are more suitable for the job, 47 were female respondents (61%), which represents the majority of responses attached to gender bias.

Graphic No. 36 Security Guard.

Security Guard

■ Total

73	56	1
Men	Both	Women

- **Kindergarten teacher.**

From the 46 respondents who think that women are more suitable for the job, 26 were female respondents (58%), which represents the majority of responses attached to gender bias.

Graphic No. 37 Kindergarten teacher.

Kindergarten teacher

84 — Both

46 — Women

- **IT technician.**

From the 32 respondents who think that men are more suitable for the job, 18 were female respondents (56%), which is the majority of responses attached to gender bias.

Graphic No. 38 IT Technician.

IT Technician

32 — Men

98 — Women

- **Videogames**

In order to gather information about cultural influences on people's development of interests, in a different section of the questionnaire respondents were asked about videogames, if they had the chance to play with one as children and if they liked them.

A clear difference can be observed by gender: only 38% of women (30) received videogames compared to 81% of males (43).

Graphic No. 39 Videogames.

Participants then were asked if they actually liked playing videogames; a higher proportion of women (20) said they did not like playing videogames (which is the equivalent to 26%), compared to 8 males only (15%).

It is interesting to note that the female respondents who said that they did not enjoy playing videogames (26%) did not receive one either, compared to 3 males only (6%) who were in the same situation. Which suggests that if those women had been given the chance to play with one, some of them might have enjoyed it. See graphic No. 40 Videogames Comparative

Graphic No. 40 Videogames Comparative.

VIDEOGAMES COMPARATIVE

■ WOMEN　■ MEN

	DID GET A VIDEOGAME AS A CHILD	NEVER GOT A VIDEOGAME AS A CHILD	DO NOT LIKE VIDEOGAMES	NEVER GOT AND DO NOT LIKE VIDEOGAMES
WOMEN	39	61	26	26
MEN	81	19	15	6

4.4.1 OBJECTIVE 3. OVERALL RESULTS/FINDINGS

Davison and Burke's, (2000) meta-analysis of 53 different studies demonstrated that job applicants, depending on their gender, consistently received lower ratings for opposite sex-type jobs.

In addition to this, the results of this exercise show that women tend to express gender preconceptions or assumptions based purely on a person's sex, more often than men, which also supports the hypothesis that upon reaching adulthood, men and women have been "hardwired to draw interferences about the right and wrong gender with respect to different job types; which persistently precludes women from considering certain occupations through self-selection bias". (Davison and Burke, 2000).

These "hardwired" preconceptions or "self-selection bias" mainly exhibited by women might be preventing them from considering certain occupations, i.e. STEM fields, if they believe or have been made believed that the job is not suitable for their gender.

In relation to their formation, videogames were used as an example of cultural influences on their interest development.

As previously mentioned, Computer Science, being a new invention in the 1960's was free of gender preconceptions, women's interest in Computer Science grew so fast that they nearly became equal in number to their male colleagues, but in the 1990's their participation dropped dramatically due to a major change in communications and the way of doing marketing, which influenced on settling Computer Science as a masculine field. (Henn, 2014).

Popular culture, movies and advertisement of desktop computers, videogames and the Gameboy were targeted at, as the name suggests, boys only. Google and Apple became the giants of communications and followed the same path, propagated the image of male programmers with a specific personality profile filling all the positions in these important,

global companies, leaving no room for the female programmers who used to build the codes back in the 1970's.

It has been demonstrated in this exercise that things have remained practically unchanged since the 1990's; females are still being left out of these particular fields from a young age and as a result, inhibiting the development of particular skills in their formation, which are being reserved for boys only.

The results of this exercise support the hypothesis that cultural and social influences have a direct impact on women's career choices and their formation, and their effects they are having on widening the STEM gap.

4.5 DATA ANALYSIS AND DISCUSSION OF OBJECTIVE NO. 4.

To suggest Mediation strategies that may well contribute to building a society with major justice and equity.

As mentioned in Section No 2.10 of Chapter 2, to be able to make a substantial change in Mexican culture and society, companies and educational institutions should be willing to contribute at an organisational and cultural level, and be prepared to take part in the process of eradicating sexism in all its forms.

Unfortunately, as it has been demonstrated "gender expectations or impositions are not conscious choices that can be individually accepted or refused". Family traditions, the collective space, and social life surrounding an individual dictates the way an individual lives. People are given different treatment in accordance to their sex, enhancing some characteristics and inhibiting others, which leads to gender distinction, generally with negative effects on women, such as sexual division of work and gender violence.

In this regard, participants were asked to indicate if they believed it was important to create awareness in Mexico about equality of rights and opportunities, in terms of gender and sexual identity. The majority of them, 126 participants (93%) said yes, while 4 people said no, from which 3 were male (6%) and 1 was female (1%). See graphic No. 41 Awareness importance.

Graphic No. 41 Awareness importance.

AWARENESS IMPORTANCE

NO
7%

YES
93%

Participants were also asked to indicate if they had witnessed sexist behaviour at work. 69% said yes, the majority of them (59) were female respondents (77%) and 31 were male respondents (58.5%); 33 people said no, from which 17 were male (32%) and 16 were female (21%); 6 respondents expressed that they were not sure what a sexist behaviour was, from which 5 were male (9%) and 1 was female (1%). 1 female respondent said she did not work. See graphic No. 42 Witnessed sexism.

Graphic No. 42 Witnessed sexism.

WITNESSED SEXISM

I AM NOT SURE
5%

I DO NOT WORK
1%

NO
25%

YES
69%

Based on this data, it can be determined that Mexican people agree on the need of creating awareness on gender equality issues, with the majority of them even having witnessed sexist situations at work.

It is interesting to note that the majority of people reporting having witnessed sexist behaviour at work (77%) were female. From the people who said no, the higher proportion were men (32% of the total male respondents compared to 21% of female) and from the people who said they were not sure, the majority were also men (5 men and 1 woman).

4.5.1 OBJECTIVE 4. OVERALL RESULTS/FINDINGS.

The results of this exercise indicate that awareness on gender equality and sexism should advance in Mexican society and should focus on the male population, especially for the reasons given before, that biased treatments and behaviours are generally being unconscious, some men

may not be able to identify gender bias or unfairness, which is also confused sometimes with favouritisms or overprotection.

Therefore, it is important to consider methods of awareness that can objectively identify gender biases or unfair treatments and assertively communicate them to the parts involved.

Mediation methods could be considered as one of the most effective ways to prevent and resolve conflict in an effective and efficient manner in gender equality issues.

The methodology suggested could be applied at early stages of people's personal and professional development, their inclusion in Educational Institutions is key in the right development of future generations.

Mediation at school level would become a fundamental tool, not only to resolve conflicts, but to promote knowledge and expertise and prevent sexism and gender violence at every level of the institutions.

At an organisational level, the availability of information and equality of opportunities for everybody would be monitored by all workers, whom would be able to identify and bring any situation to the attention of the directors if that was not the case. This new method would oblige all parts involved to communicate, promote the debate and participate in agreements; which would eventually transform interpersonal relations and the overall performance of the company's talent.

CHAPTER V

CONCLUSIONS, RECOMMENDATIONS AND REFLECTION.

5.1 INTRODUCTION

This chapter summarises the dissertation research; it includes a review of findings and accomplishments of the study, an assessment of the dimensions and impact of gender stereotyping on Mexican women's career choices and professional development, the conflict between self-identity and society's gender expectations, and the importance of gender equality awareness in Mexico, in addition to the suggestion of Mediation strategies in the workplace and in Educational Institutions as strategies to prevent and resolve conflict and to provide information and create awareness on gender issues.

For the purpose of this study and considering the nature of the research, a deductive approach was used in this research, where the hypothesis was explored and tested in order to confirm or reject the theory of gender stereotyping and social constructivism influencing Mexican women's career choices and professional development, by analysing and contrasting secondary research (literature review), with primary research (data collected from primary research through quantitative methods).

Lastly, a list of recommendations will be provided based on findings.

5.2 CONCLUSIONS

1. **Gender stereotypes.** Primary research suggests that men and women's personalities assessed through self-validation do not conform with social assumptions, preconceptions or characteristics expected to be possessed by people based on their gender/sexual identity.

   Socially expected "feminine traits" were often equally and regularly exhibited by men, while socially expected "masculine traits" were often equally and regularly exhibited by women, with slight variances in certain categories.

   This research invalidates the generalised view or preconception about binary gender traits or characteristics that are ought to be possessed by women and men.

2. **Biased beliefs.** Primary data validates the hypothesis that gender stereotypes impact, shape and often distort personal beliefs about oneself and others in relation to skills, abilities and the capacity to develop them, often considered to be *reserved* for a single gender.

   This study shows that social preconceptions have a major impact on the female population, which has had detrimental effects on their career development, preventing them, ultimately by self-exclusion, from making choices about their lives, or considering certain occupations or fields believing that the position is not suitable for their gender, often self-limiting their capacity to develop their skills and abilities through "self-selection bias".

   These "hardwired" preconceptions or "self-selection bias" mainly exhibited by women are influencing their career choices and preventing them from considering certain occupations in STEM fields, if they consider that the job is not suitable for their gender.

3. **Leadership gap**. Women are perceived to be less ambitious than men, they are often overlooked for leadership positions, unless they prove themselves as "atypical", which undermines women at every stage of their careers, contributes to job disaffection and

economic disparity. Contrary to what is socially expected, this research shows that both, men and women (with tertiary education) regard themselves and their opposite sex with the same high level of leadership. Men and women were also found to share the same ambitions in life: economic and professional development.

Even though leadership styles are often regarded with a gender, either masculine or feminine, being the first one the most wanted in every aspect of life, data shows that the majority of people identify themselves as individuals with different personalities but similar ambitions, and characteristics, exhibiting "masculine" and "feminine" traits similarly, irrespective of their gender.

Therefore, leadership should not be limited to "masculine" traits or defined by gender; as it has been demonstrated that both genders often display counter stereotypical personalities and conducts, and every leadership style presents advantages and disadvantages at some stage; thus, an "androgynous" approach to leadership should be considered.

4. **Generational perspective**. Data suggests that newer generations, defined as "Millennials" (for those born from 1980 to 2000) and "Generation Z" (for those born after 2000), display a positive change in relation to understanding and advocating for gender equality in Mexico; however, data also suggest that the male population in general present higher levels of unawareness or ignorance about this subject.

Biased beliefs about others are more evident in certain situations, particularly in the public life, however, they are also regularly adopted and transmitted unconsciously in the form of overprotection, condescending or demeaning behaviours, which contribute to preserve

gender stereotypes and shape discrimination against women and minorities. It is important to ensure an effective communication of this matter to the male population and make them aware of the importance of being able to identify and eradicate gender biases, which often constitute discrimination, a still insufficiently understood problem.

5. **Mediation.**

Beyond the generally known advantages of contributions of mediation which refer to the management and transformation of conflict, the incorporation of mediation in educational centres would lead to the improvement of competencies of boys and girls from an early age, which is expected to facilitate a major understanding of the importance and value that each of them individually have, from a gender perspective.

Overall, the study validates the hypothesis that gender imbalance in STEM fields and leadership positions is mainly caused by gender stereotyping: social constructionism and expectations based on gender, which frequently presents as a conflict between gender beliefs and self-identification in both genders; it demonstrated the dimensions and impact of gender stereotyping particularly on Mexican women's career choices and their professional development, and the importance of gender equality awareness in Mexican society by employing Mediation strategies in the workplace and in Educational Institutions in order to prevent and resolve conflicts in gender issues, and also to create awareness on this matter, which will eventually be reflected on a fairer society.

5.3 RECOMMENDATIONS

1. This study exposed further different problems, such as the self-selection bias mainly exhibited by women, and the high level of regret in the female population about their career choices. 6 of every 10 female graduates, compared to a 27% of males who participated in this research expressed a high level of regret about their career selection, which has had a direct impact mainly on women's career development and their financial situation.

   Further research on this matter, to explore such phenomenon is recommended, which could include a larger population from different ages and from various regions of Mexico.

2. Data suggests that Mexican men are the population group with the greatest need of comprehension and understanding of this subject, specifically on sexist behaviour, to be able to identify gender disparity and discrimination when it occurs. Awareness strategies are recommended to be focused on this segment of the population to effectively promote an understanding of this matter and the importance of taking responsibility of this issue.

3. This study was carried out considering a traditional binary classification of people (female and male), however, it has been demonstrated that sex determination based purely on biology is a complex subject that suggests many variations of biological compositions, which could not fit in a binary model; moreover, a growing number of people from newer generations are moving away from the conventional idea of only 2 existing genders, with many people even rejecting identifying with any of them. Further

research, including different variations of sexuality and gender identity is recommended.

4. Documented research about disease outbreaks, pandemics and gender violence regrettably line up with the increased levels of domestic violence and femicides observed in Mexico and worldwide during the pandemic COVID-19 outbreak, which occurred at the same time as this research was being carried out.

Pre-existing gender norms and inequalities, along with economic and social stress resulting from the restrictions in movement and social isolation measures, contributed to the exponential increase of violence against women, children and LGBT communities. The UN estimates that six months of lockdowns could result in an additional 31 million cases of gender-based violence, and 13 million more child marriages by 2030, mainly due to exacerbated poverty and families marrying their daughters to try to alleviate the perceived burden of caring for them. This new data shows the catastrophic impact that COVID-19 could soon have on women and girls globally, said Dr. Natalia Kanem, UNFPA's Executive Director.

It is critical to investigate this phenomenon to identify the underlying reasons that are detrimental to ending gender violence, which are having a dreadful negative impact on women around the world, and which is estimated will extend for decades.

5. Mediation in educational institutions is suggested as the means to promote a positive management of conflicts, which can also provide an opportunity to facilitate the development of comprehension abilities in relation to gender issues and the equal importance of each of them within the society.

The use of mediation in schools could be carried out at all levels of the educational system, and according to their cognitive advancement. The aim would be to use the

tools and methods proposed by mediation as a path to practice principles of tolerance, respect, recognition of different abilities and fair coexistence in educational institutions. The participation of the parents and teachers is crucial to assist the students who want to improve their talents, knowledge, and attitudes. The conflict that may arise shall be managed in order to be resolved through an effective dialogue, to transform the educational institution environment into a healthier and more balanced community to ultimately build a fairer society.

5.4 REFLECTION

"Social transformation requires strategies, not sacrifices". (Cacho, 2008).

This research experience has taught me the great importance of questioning my own beliefs, assumptions and hypotheses. Through this process, I have learnt and gained further knowledge and understanding of the situation of Mexican society in relation to the way we see and define ourselves, and the need to reshape those perceptions and beliefs, which are consciously or unconsciously holding us back in the process of developing our own abilities, capabilities, and aptitudes, frequently influencing negatively in the form of self-discouragement from pursuing a goal that seems greater than us.

This research highlighted the need for better education and better understanding of the social issues that are having an enormous impact on Mexican people, and their life choices. It is sensible to suggest that if a real change is to be made, changes must be first made individually. The best investment that a person can do is to invest in oneself, taking personal care of the best asset that such individual possesses, which is their own person, mind, and acts, taking care of their own space, and of the people around them; pursuing an education, and being mindful of the role models that are to be followed.

Educational institutions are one of the primary sources of information influencing, and often dictating young people's behaviours and personalities; it is the structural space where our conducts are either corrected or neglected, sometimes in the form of reprehension, sometimes in the form of bullying. It is important that teachers and parents work coercively to apply the adequate tools to redirect boys' and girls' thoughts and actions and try to re-direct them in order to obtain a positive outcome.

Going through this research made me realise that conflict is often not a visible problem but a result of the untold stories and untreated wounds.

One of the expected outcomes I described in my dissertation proposal was my desire to increase awareness about gender inequality in Mexican society, and to contribute to eradicate misconceptions about feminist activism and the stigma attached to the word itself, anticipating that disinformation was the major obstacle in achieving this goal.

After termination of this research, I have come to the conclusion that individual evolution is vital for social transformation, and that changes can happen every single day, through brief interactions with people that you have in your life, with people who you have access to right now; small actions and kind gestures are the ones that matter and influence other people's minds, and by doing so, we can all contribute positively to achieve our main goal, which is to become a better and fairer society.

"Prevention is not about telling people that what they are doing is wrong, prevention is about providing the means and teaching people to develop the strength and courage to recognise, confront and manage unjust situations". Cacho, 2012.

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APPENDIX No. 1 DATA PRESENTATION.

SECTION 1: GENERAL DETAILS

The first part of the questionnaire requested the participant to provide their general details and general information that was relevant for the subject.

Rationale and aim: To obtain information that would allow the researcher to analyse and classify the data gathered from a gender, educational level and age group perspectives; to obtain information that would allow the researcher to focus on a particular group and characteristics, considering its relevance to the subject and purposive sampling; to obtain information about career selection, which would allow to measure gaps between genders, to finally understand the reasons behind gender disparity in STEM subjects and the barriers that are keeping women from reaching top positions in Mexico.

The total of respondents was 130, from which, 77 were female and 53 were male.

SURVEY REPONDENTS

41%

59%

■ FEMALE RESPONDENTS

GROUP AGE

The age groups of he respondents were as follows:

Ages 31-40 = 64 respondents

Ages 21-30 = 55 respondents

Ages 41-50 = 9 respondents

Over 51 = 2 respondents

PARENTHOOD

Only 31 participants (24%) indicated that they had children.

EDUCATIONAL LEVEL

From the total of respondents, only 5% (4 women and 3 men) do not have tertiary education.

From the total of Postgraduates (18), 12 degrees are held by women and 6 by men, which represents a 16% of the female respondents that hold a postgraduate degree, compared to 11% of male respondents who hold a postgraduate degree.

MAIN REASONS WHY RESPONDENTS SUSPENDED THEIR EDUCATION:

Financial struggle was the main reason given by people who abandoned their studies.

CAREER CHOICES

From the total of respondents, 52 females (67.5%) and 31 males (58.5%) studied subjects in HASS (Humanities, Arts and Social Sciences), which represents a 64% (83 respondents) of the total of graduates.

In relation to STEM, only 22% of females (17) chose STEM related subjects, compared to a greater figure of 43% of males (23) who chose to study a STEM related field. Together represent 31% of the graduates in STEM. 5% failed to indicate their field of study.

CAREER CHOICES

■ WOMEN ■ MEN

	STEM	HASS
WOMEN	22%	67.50%
MEN	43%	58.50%

However, when respondents were asked to decide if hypothetically, they would change their career selection if they had the chance, only 15 men said yes, while an astonishing number of females (48), which represents a 76% of the total of respondents would want to change their career if they could.

■ Women ■ Men

24%

76%

When asked to indicate which subject they would like to change to, if they could, the following differences could be observed:

WOMEN AND MEN ON HASS

BEFORE (ACTUAL)   AFTER (HYPOTHETICAL)

WOMEN ON HASS: 67.5, 54.5
MEN ON HASS: 58.5, 57

WOMEN AND MEN ON STEM

BEFORE (ACTUAL)   AFTER (HYPOTHETICAL)

WOMEN ON STEM: 22, 35
MEN ON STEM: 43, 45

The number of female enrolled in HASS subjects would be reduced by 13 percentage points, which is a significant decline, reflecting directly on STEM subjects, which would present an increase of such percentage.

In the case of men, the variances are not substantial, but it can still be observed that men would be now the majority in HASS subjects.

Men enrolling in STEM fields would also increase 2 percentage points, which, combined with women, would bring a total increase of 10%, going from 31% to 41% of students graduating from STEM subjects.

CURRENT

DID NOT SAY
2%

STEM
31%

HASS
67%

■ HASS ■ STEM ■ DID NOT SAY

STEM AND HASS COMPARATIVE

	STEM	HASS	DO NOT INDICATE
BEFORE	31	67	10
AFTER	41	57	2

■ BEFORE
■ AFTER

In relation to negotiation skills, when asked if they had ever negotiated their salary or a promotion in their current or previous jobs, 49 women (64%) and 37 men (70%) said yes:

NEGOTIATION OF SALARY AND PROMOTION

- Women
- Men

	64	70
	Women	Men

To get a hint of their leadership traits and ambition, they were asked if in the short or long term, they would like to occupy the top position in their companies; a greater proportion of men (39 men, equal to 73.5%) compared to 50 women (65%) said they would:

LEADERSHIP POSITION

- Women
- Men

	65%	73.50%
	Women	Men

SECTION 2: SELF-IDENTIFICATION WITH GENDER EXPECTATIONS

Instructions given: From the list of adjectives, indicate as honestly as possible, to what extent you identify with each one of them.

Rationale and aim: To evaluate, based on self-identification, how many respondents would be aligned with the characteristics that are socially attributed or expected from each gender, and how many of them could not be categorised as being stereotypical conducts or behaviours (own's abilities beliefs). The answers are presented in percentages as follows:

123

PART 3. GENDER STEREOTYPES/SOCIAL EXPECTATIONS ON OCCUPATIONS

The instructions given: In your personal opinion, indicate from the following list of occupations if you think that women, men, or both are equally qualified to perform each one of them.

Rationale and aim: To gather information about the influence of social constructs and gender expectations from both, Mexican women and men, and their impact on their career choices and formation.

HUMAN RESOURCES.

From the total of 130 respondents, the majority (90) indicated that both genders were equally capable to perform the job, 38 respondents said that women were more capable, and 2 people said that men were more capable.

From the 38 respondents who think that women are more suitable for the job, 24 were female respondents (63%), which is the majority of responses attached to gender expectations.

CIVIL ENGINEERING.

From the total of 130 respondents, the majority (85) indicated that both genders were equally capable to perform the job, 42 respondents said that men were more capable, and 3 people said that women were more capable.

From the 42 respondents who think that men are more suitable for the job, 25 were female respondents (59.5%), which represents the majority of responses attached to gender expectations.
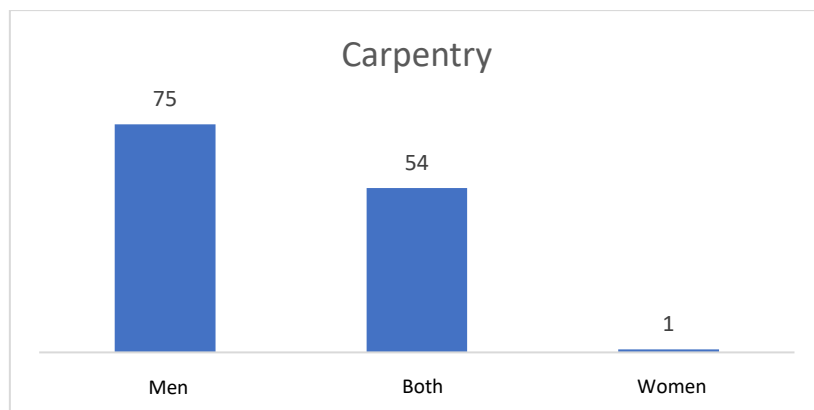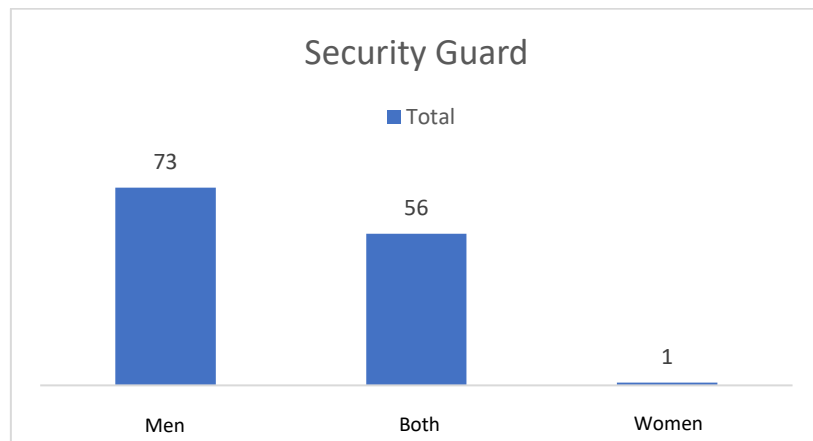
NURSING.

From the total of 130 respondents, the majority (86) indicated that both genders were equally capable to perform the job, 44 respondents said that women were more capable, and 0 people said that men were more capable.

From the 44 respondents who think that women are more suitable for the job, 27 were female respondents (61%), which represents the majority of responses attached to gender expectations.

CARPENTRY.

From the total of 130 respondents, the majority (75) indicated that men were more capable to perform the job and 54 respondents said that both genders were equally capable to perform the job.

From the 75 respondents who think that men are more suitable for the job, 44 were female respondents (59%), which represents the majority of responses attached to gender expectations.
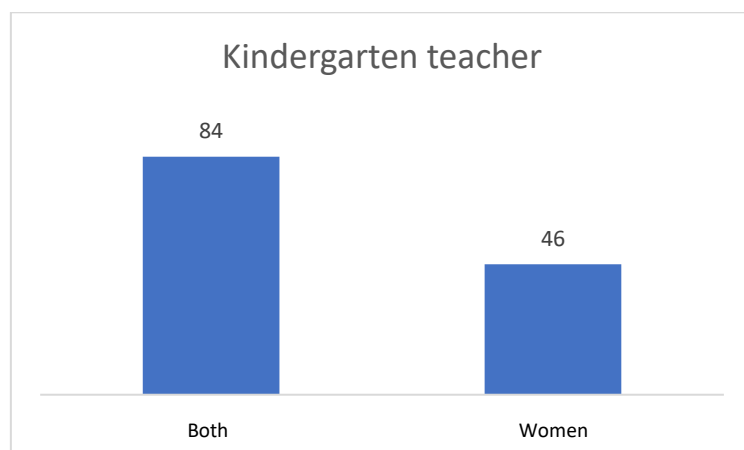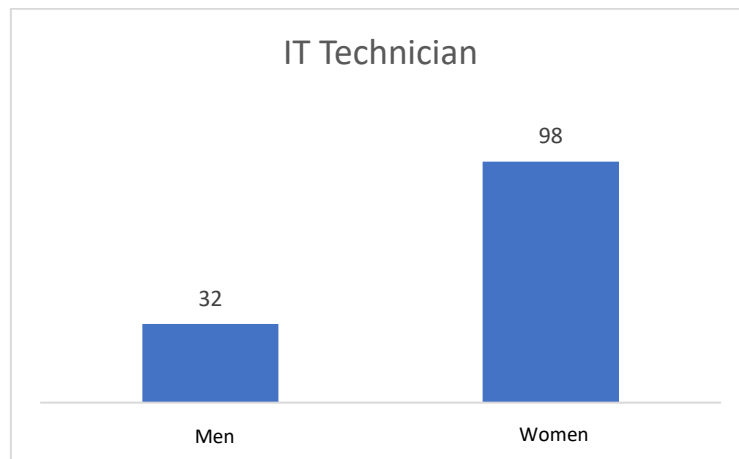
SECURITY GUARD.

From the total of 130 respondents, the majority (73) indicated that men were more capable to perform the job and 56 respondents said that both genders were equally capable to perform the job.

From the 75 respondents who think that men are more suitable for the job, 47 were female respondents (61%), which represents the majority of responses attached to gender expectations.

KINDERGARTEN TEACHER.

From the total of 130 respondents, the majority (84) indicated that both genders were equally capable to perform the job, 46 respondents said that women were more capable, and 0 people said that men were more capable.

From the 46 respondents who think that women are more suitable for the job, 26 were female respondents (58%), which represents the majority of responses attached to gender expectations.

IT TECHNICIAN.

From the total of 130 respondents, the majority (98) indicated that both genders were equally capable to perform the job and 32 respondents said that men were more capable, 0 people said that women were more capable.
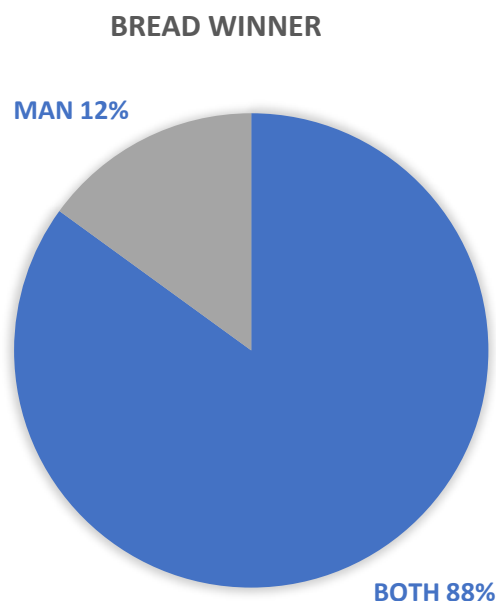
From the 32 respondents who think that men are more suitable for the job, 18 were female respondents (56%), which is the majority of responses attached to gender expectations.

PART 4: PERSONAL OPINION ON GENDER EXPECTATIONS

Instructions given: Please indicate if you agree or disagree with the following affirmations.
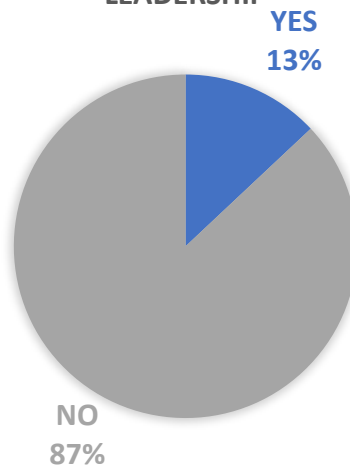
Rationale and aim: Aimed at analysing and understanding the opinions, attitudes and experiences of Mexican people towards gender stereotypes, and its influence in gender disparity in STEM careers and at the workplace, in leadership positions. It will also allow the researcher to reconcile different perspectives of tendencies based on gender that add value to other existing measures and indicators of gender equality to allow meaningful comparisons between different gender equality domains.

Participants were asked to indicate if they thought that whether men, women or both should be the breadwinners in the family. 115 participants (88%) said that both, and 15 participants (12%) said that it should be men, from which, 11 respondents were male (21% of total males) and 4 were female (7.5% of total females).
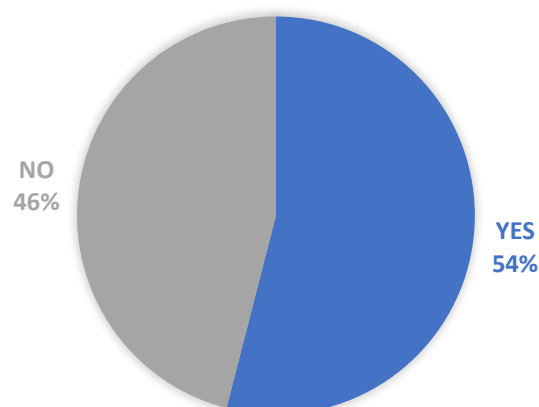
BREAD WINNER

MAN 12%

BOTH 88%

Participants were asked to indicate if they thought that men were more emotionally qualified to be leaders. 117 respondents (87%) said no and 13% said yes, from the respondents who said yes, the majority (8) were female and the rest (5) were male respondents.

MEN EMOTIONALLY MORE QUALIFIED FOR LEADERSHIP
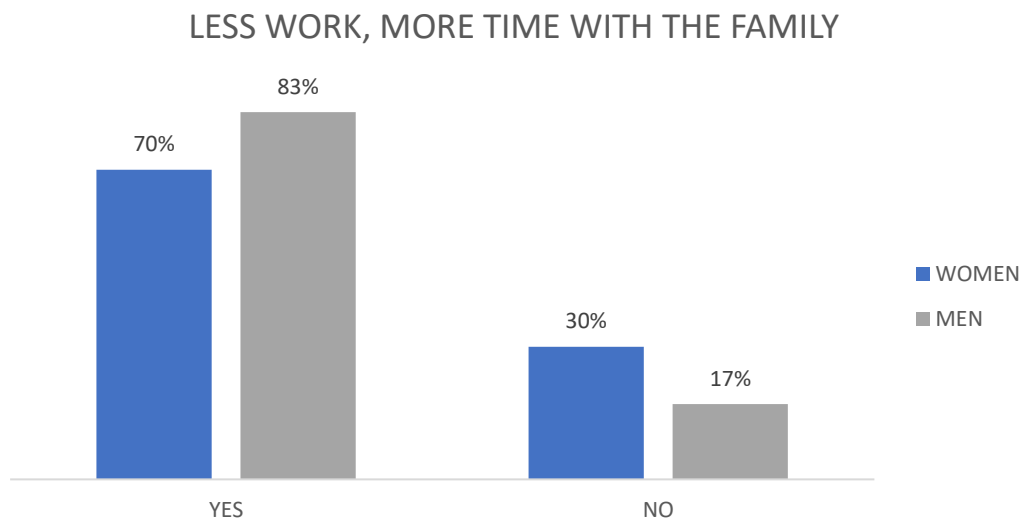
YES
13%

NO
87%

Participants were asked to indicate if an equal number of women and men worked in their fields. 70 participants (54%) said yes and 60 participants (46%) said no, from which, 35 are female (45%) and 25 are male (47%).
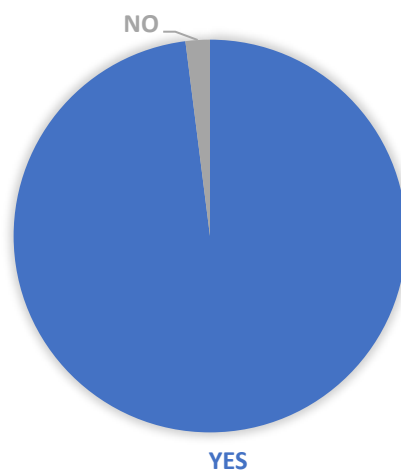
EQUALITY IN NUMBER

NO
46%

YES
54%

Participants were asked to indicate if they would like to work less hours in order to spend more time with family. 32 respondents said no, the majority of them female (24) and 98 respondents said yes, from which, 54 were female (70%) and 44 were male (83%).

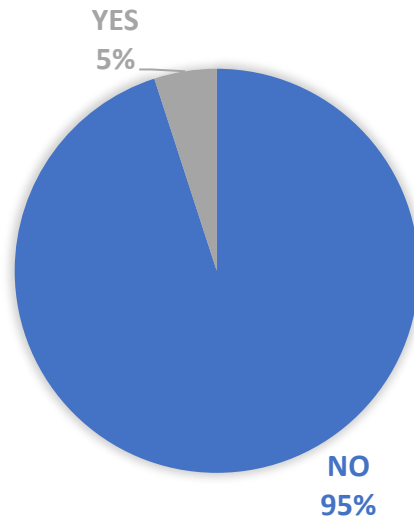## LESS WORK, MORE TIME WITH THE FAMILY

Participants were asked to indicate if they thought that household chores should be equally divided between men and women. 127 participants said yes and 3 participants said no, the 3 of them male.
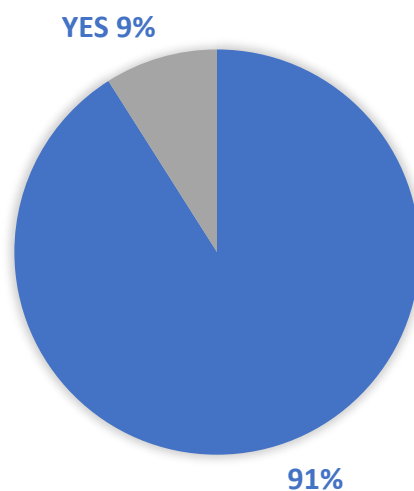
HOUSEHOLD CHORES EQUALLY DIVIDED

Participants were asked to indicate if they thought that it was better if women got married before the age of 30, 123 respondents (95%) disagreed, while 5 women (6.5%) and 2 men (4%) said yes.

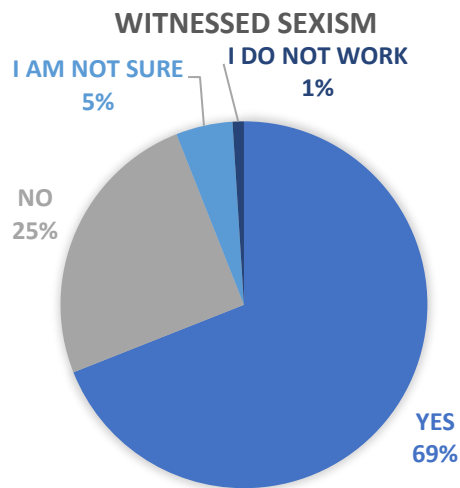**WOMEN SHOULD BE MARRIED BEFORE 30**

YES
5%

NO
95%

Participants were asked to indicate if they thought that women who decided not to have children were making a bad decision, 118 respondents (91%) said no and 12 respondents said yes, from which, 7 were male (13%) and 5 were female (9%).
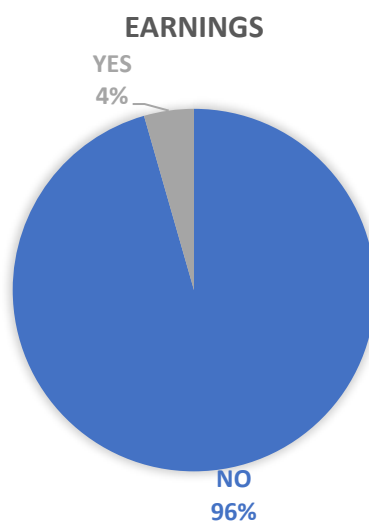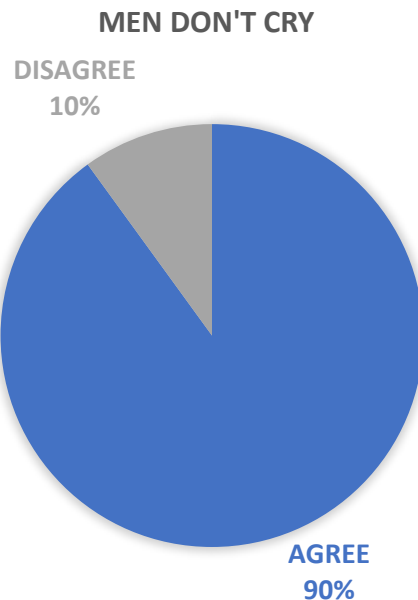
MOTHERHOOD

YES 9%

91%

Participants were asked to indicate if they had witnessed sexist behaviour at work. 69% said yes, from which 59 were female respondents (77%) and 31 were male respondents (58.5%); 33 people said no, from which 17 were male (32%) and 16 were female (21%); 6 respondents said they were not sure what a sexist behaviour was, from which 5 were male (9%)and 1 was female (1%). 1 female respondent said she did not work.

WITNESSED SEXISM

I AM NOT SURE
5%

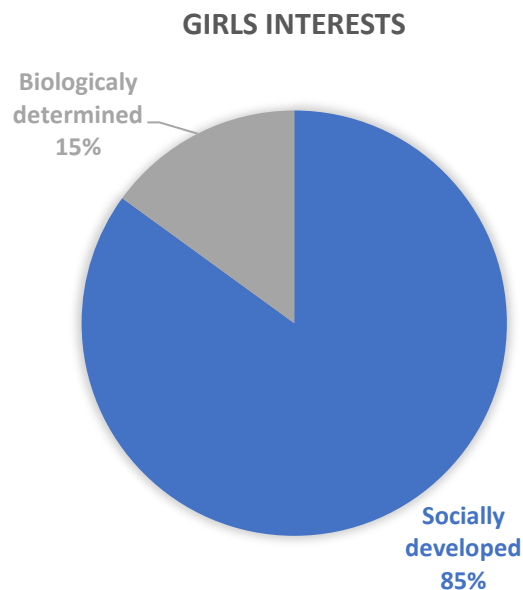I DO NOT WORK
1%

NO
25%

YES
69%

Participants were asked to indicate if they would feel bad if their partner earned more money than them, 125 participants said no (96%) and 5 participants said yes, from which 3 were female (4%) and 2 were male (4%).

EARNINGS

YES
4%

NO
96%

Participants were asked to indicate if they agreed with the sentence "Men don't cry". 90% of participants disagreed and 10% agreed, from which 5 were female respondents (6%) and 8 were male (15%).

MEN DON'T CRY

DISAGREE
10%

AGREE
90%

Participants were asked if they thought that girls' skills and interests were socially developed or biologically determined; 110 respondents indicated that they thought they were socially developed, while 20 people expressed that they thought were biologically determined.

GIRLS INTERESTS

Biologicaly
determined
15%

Socially
developed
85%

Participants were asked if they thought that boys' skills and interests were socially developed or biologically determined; 113 respondents indicated that they thought they were socially developed, while 17 people expressed that they thought were biologically determined.

BOYS INTERESTS

Genetically determined
13%

Socially developed
87%

Participants then were asked if they would allow their daughter to play football or with cars; 126 people said yes, while 4 people said no, from which 3 were females (4%) and 1 was male (2%).

GIRLS PLAYING WITH CARS

NO

YES

YES
NO

Participants were asked if they would allow their son to play with dolls or dance ballet; to which 114 people said yes, while 16, a larger number compared to those who said no to the previous question said no for boys; from those, 10 were males (19%) and 6 were females (8%).

BOYS PLAYING WITH DOLLS

In relation to videogames, a clear difference can be observed by gender: only 38% of women (30 women) received videogames as a child compared to 81% of males (43 men).

VIDEOGAMES

Participants then were asked if they liked playing videogames, 20 females said they did not like to play videogames (26%), compared to 8 males (15%).

It is interesting to note that the female respondents who said they did not enjoy playing videogames did not receive one either, compared to 3 males only (6%) in the same situation.

VIDEOGAMES

■ WOMEN ■ MEN

Participants were asked to indicate if, going out with their partner, the bill was paid by women, men or it was equally divided. 53% of participants said it was equally divided, 44% said that men paid and 3% said that women paid.

PAYING THE BILL

■ EQUALLY DIVIDED ■ MEN PAD ■ WOMEN PAID

Participants were asked to indicate what meant for them to be successful in life. The majority of respondents (31%) indicated that financial stability was the most important factor when deemed success, followed by professional development (21%), then a significant number of respondents indicated that it was a combination of them all, or some of them (20%), followed by owning a successful business (20%), have a family (7%) and finally 5% gave different answers, such as reaching happiness, mental health, live in peace with nature, among others.

SUCCESS IN LIFE

Legend:
- Professional development/objectives
- Financial Stability
- Have a family
- Own a successful business
- All of them

Pie chart values: 21%, 31%, 20%, 16%, 5%, %

The following graphic is a comparison of genders, based on previous answers. It can be observed that a higher proportion of women placed more importance on professional development in order to achieve success, while for the majority of men, financial stability would be their main goal to achieve success in life.
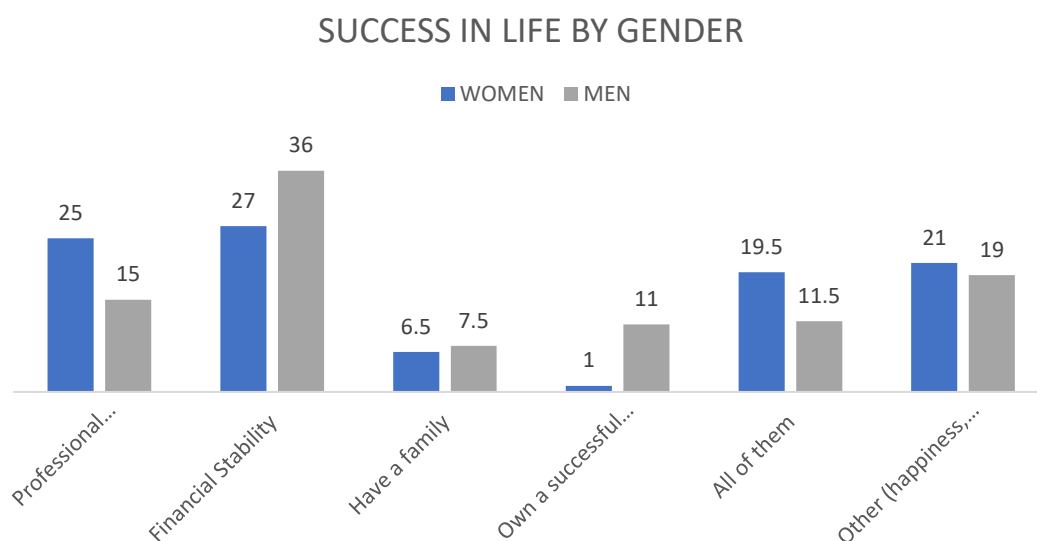
SUCCESS IN LIFE BY GENDER

■ WOMEN   ■ MEN

Category	WOMEN	MEN
Professional…	25	15
Financial Stability	27	36
Have a family	6.5	7.5
Own a successful…	1	11
All of them	19.5	11.5
Other (happiness,…	21	19

Lastly, participants were asked to indicate if they though it was important to create awareness in Mexico about equality of rights and opportunities, irrespective of people's gender and/or sexual identity; 126 participants (93%) said yes, while 4 people said no, from which 3 were male (6%) and 1 was female (1%).

AWARENESS IMPORTANCE

NO
7%

YES
93%

APPENDIX No. 2. SURVEY OF ATTITUDES AND PERCEPTIONS ABOUT GENDER EQUALITY WITH RATIONALE.

PART 1: GENERAL DETAILS

1. Please specify your gender

Female
Male
Other

2. What is your age group?

22 – 25
26 - 29
30 – 34
35 – 39
40 – 44
45 – 50
51+

3. What is the highest degree or school level that you have completed?

Middle School
High School
Bachelor's Degree
Master's Degree
Doctorate
Indicate in which subject:

4. Most important reason for your career's selection?

It was the result of my vocational test
I was particularly good at that subject in the school
It was the most convenient choice in terms of job opportunities and salary paid
It was my parent's suggestion (they wanted the best for me)

5. In my professional development I am always aiming at reaching a top-level position (managerial/directive).

Yes
No

6. Do you have children?

Yes
No

PART 2: SELF-IDENTIFICATION WITH GENDER EXPECTATIONS

7. From the following list of adjectives, indicate as honestly as possible, to what extent you identify with each of them.

	Very Much	Much	Very Little	Nothing
Honest				
Brave				
Kind				
Childcare				
Vain				
Friendly				
Family person				
Adventurous				
Independent				
Obedient				
Submissive				
Competitive				
Romantic				
Nervous				
Leader				
Entrepreneur				
Ambition				
Determination				

PART 3: PERCEPTIONS ABOUT GENDER STEREOTYPES ON CAREER CHOICES

8. In your personal opinion, indicate from the following list of occupations if you think that women, men, or both are equally qualified to perform each of them.

- Nurse

Women

Men

Both

- Preschool teacher

Women

Men

Both

- Carpentry

Women

Men

Both

- Civil Engineer

Women

Men

Both

- Human Resources

Women

Men

Both

- Security Guard

Women

Man

Both

- Administrative assistant

Women

Man

Both

- Computer programmer

Women

Men

Both

PART 4: PERSONAL OPINION ON GENDER EXPECTATIONS

9. Please indicate if you agree or disagree with the following affirmations:

Men should be the main providers of the household
Agree   Disagree

Men are emotionally more competent to perform leadership positions
Agree   Disagree

There are equal number of positions held by women and men in my work area or profession
Agree   Disagree

I would rather work less hours to be able to spend more time with my family
Agree   Disagree

The household activities should be equally divided in the couple
Agree   Disagree

I think that women who have decided not to have children have taken a wrong decision which will regret in the future.
Agree   Disagree

I have witnessed sexist comments or behaviours at work
Agree   Disagree

By the age of 30 years old women should be married
Agree   Disagree

By the age of 30 years old men should be married
Agree   Disagree

The interests and behaviour of boys and girls are genetically defined from the moment they are born, according to their gender.
Agree   Disagree

The interests and behaviour of boys and girls can change, according to the environment and parental guidance.
Agree   Disagree

When I go out with my partner I always pay the bill
Yes
No

I would feel bad if my partner earns more money than me.
Yes
No

I would allow my son to play with dolls or practice ballet
Yes
No

I would allow my daughter to play football or with cars
Yes
No

Boys should be taught that men do not cry.
Yes
No

When I was a kid, I used to play videogames.
Yes
No

When I was a kid, my gifts included videogames
Yes
No

10. If you had the chance to go back in time, would you choose a different career? If yes, which one?
Yes: _____
No

11. For you, what represents to be successful in life?
a) Fulfil my professional goals
b) Travel around the world
c) Have a family
d) Have financial stability
e) Other, please indicate: _____

12. Do you think it is important to raise awareness on gender equality in the community, school, workplace?
Yes
No

QUESTIONS AND RATIONALE

QUESTION	RATIONALE	OBJECTIVE
PART 1: GENERAL DETAILS		
10. Please specify your gender.	To obtain information that will allow the researcher to analyse and classify the data gathered, from a gender perspective.	**1**
11. What is your age group?	To obtain information that will allow the researcher to focus on a selected age group, considering its relevance to the subject and purposive sampling.	**1**
12. What is the highest degree or school level that you have completed? Indicate in which subject.	To obtain information that will allow the researcher to focus on the participants with the required academic level, to gather information about career selection, to allow an approach that measures gaps between men and women.	**2**
13. Most important reason for your career selection?	To understand the reasons behind gender disparity in STEM subjects.	**2**
14. In my professional development I am always aiming at reaching a top-level position (managerial/directive).	To understand and identify the barriers that are keeping women from reaching top positions in Mexico.	**2**
15. **Do you have children**	To assess the impact of motherhood on women's career development.	**3**
PART 2: SELF-IDENTIFICATION WITH GENDER EXPECTATIONS		
16. From the list of adjectives, indicate as honestly as possible, to what extent you identify with each one of them.	To assess how many respondents would be aligned with what is socially accepted or expected from both genders and how many of them could not be categorised as being stereotypical conducts or behaviours (own's abilities beliefs).	**1**
PART 3: PERCEPTIONS ABOUT GENDER STEREOTYPES ON CAREER CHOICES		
17. In your personal opinion, indicate from the following list of occupations if you think that women, men, or both are equally qualified to perform each of them.	To gather information about the influence of social constructs and gender expectations from both, Mexican women and men, and their impact on their career choices and formation.	**3**

QUESTION	RATIONALE	OBJECTIVE
PART 4: PERSONAL OPINION ON GENDER EXPECTATIONS		
18. Please indicate if you agree or disagree with the following affirmations: Men should be the main providers of the household Men are emotionally more competent to perform leader positions There are equal number of positions held by women and men in my work area or profession I would rather work less hours to be able to spend more time with my family The household activities should be equally divided between couples I think that women who have decided not to have children have taken a wrong decision which will regret in the future. Boys should behave *manly* to avoid being called effeminate By the age of 30 years old women should be married By the age of 30 years old men should be married The interests and behaviour of boys and girls are naturally defined from the moment they are born, according to their gender. When I go out with my partner I always pay the bill I would feel bad if my partner earns more money than me. I would allow my son to play with dolls or practice ballet I would allow my daughter to play football or with cars Boys should be taught that men do not cry. When I was a kid, I used to play videogames. When I was a kid, my gifts included videogames 10. If you had the chance to go back in time, would you choose a different career? If yes, which one? Yes: _____ No 11. For you, what represents to be successful in life? a) Fulfil my professional goals b) Travel around the world c) Have a family d) Have financial stability e) Other, please indicate: _____ 12. Do you think it is important to raise awareness on gender equality?	**Aimed at analysing and understanding the opinions, attitudes and experiences of Mexican people towards gender stereotypes, and its influence in gender disparity in STEM careers and at the workplace, in leadership positions. It will also allow the researcher to reconcile different perspectives of tendencies based on gender that add value to other existing measures and indicators of gender equality to allow meaningful comparisons between different gender equality domains.**	**1, 2, 3 and 4**