



Stagnant Masculinities and Missing Awareness of the Gender Gap in STEM

A Situated Qualitative Analysis on Past-Present-Future

Grit Kirstin Koeltzsch¹

¹*Engineering Faculty/ National University of Jujuy, Argentina*

Abstract: The engineering disciplines, or careers rooted in the field of STEM, struggle with the gender gap because they are embedded in a sociocultural and historical context in which hierarchically organized masculinities are derived and reproduced within the structures of an unequal society. This paper aims to critically discuss why male engineering students often fail to recognize the dissimilar gender relationships in society and engineering. Based on qualitative research regarding the future time perspective and an intersectional gender analysis, preliminary results are presented, derived from a survey conducted with a sample of 40 undergraduate students from the Engineering Faculty of the National University of Jujuy (UNJu) in Argentina. The analysis reveals that male students are not widely aware of the history of gender relations, are unfamiliar with female scientists, and do not recognize the importance of gender equity. In conclusion, I suggest rethinking educational strategies and redefining masculinity, thereby allowing new models to emerge for a more inclusive environment and culture in engineering.

Keywords: Engineering students, future, gender gap, intersectionality, masculinities.

I. Introduction

The debate on the gender gap and gender violence in STEM (Science, Technology, Engineering, and Mathematics), its causes, and possible solutions is widely discussed and is still on the global agenda. The discussions on the causes are mostly related to the thinking of the Western capitalist society that historically considers women not capable of engineering and constructs an image of this sector of science as masculine, competitive, objective, and impersonal, which, at the same time, reinforces masculine stereotypes. This problem is not only part of the general vision and behavior of society, but also reflects broader societal issues. However, it is also reflected in the organization of our educational institutions, as well as in daily behavior and communication. Furthermore, the issue is often underplayed, with the assumption that time will resolve the situation. As this is not and will not be the case, the need for a critical discussion of both femininities and masculinities is even more necessary.

Focusing particularly on engineering students who participated in this research, I point out that femininities and their role in this field are regulated by the construction of a set of arbitrary and masculinized norms whose discourses and meanings are based on masculinizing elements such as language, values, and diverse attributes, frequently known as the “culture of engineering”. In this context, the gender perspective is both a methodology and a political decision to make visible and reconstruct the cultural arbitrariness inherent in the community itself. To change the gap situation often in line with gender violence, it is necessary to examine the issue from different angles, considering students as the future professionals who have to insert themselves in multi-gendered working teams. However, if we do not discuss and raise awareness of the problem, the situation will likely remain unchanged.

This paper aims to critically discuss why male engineering students often fail to recognize the unequal gender relationships in society, particularly in the field of engineering. Based on qualitative research regarding the Future Time Perspective (FTP) and gender, I collected data with a survey of undergraduate students from the National University of Jujuy (UNJu) in Argentina. The analysis reveals that male students are not completely aware of the issue, they are unfamiliar with female scientists, and do not recognize the importance of gender equity. As this is an urgent topic within science and our society, we must draw attention to finding solutions, starting with our educational environment. However, gender is not a separate category. We should remember that it is a social variable that intersects with others, such as age, race, ethnicity, class, religion, disability, and sexual orientation, among others. Intersectionality is an analytical tool that can help uncover specific challenges and areas for improvement, revealing opportunities to strengthen practices and environments. An intersectional gender approach examines how various socially and culturally constructed categories interact at different levels to produce different forms of power relations and inequalities. In this context, it is even more relevant, since the gender gap, the abandonment of careers during study, and the subsequent dropout due to gender violence [1], a



problem we should approach from a socio-historical perspective that explains the present situation and projects it into the future.

For this purpose, it is necessary to situate the study in the local reality, which is the province of Jujuy in northwestern Argentina, recognizing that it is part of a patriarchal sociocultural process that has developed in modernity [2], which means that in our society the sex-gender situation has been established from a binary and reductionist vision, at the same time, underrating female knowledge. Initial studies on the perception and experience of gender and cultural relations, conducted with students of the Faculty of Engineering (UNJu) in Jujuy, reveal that, on the one hand, there is concern about gender equality in conjunction with issues of social class and ethnic-racial identity. However, this occurred after the topic had been widely discussed in the classroom [3], which also highlights the need for guided conversations and pedagogic strategies to address this issue. Cultural discourse, biases, and stereotypes about gender relations, both conscious and unconscious, register, limit, and frame practices and influence social perspectives. The historical situation, as reflected in present-day society, and the recognition of gender as a power relationship form the basis for a critical discussion. Therefore, this research hypothesizes that if undergraduate students do not understand their society's history in terms of gender and relationships of power, they will not be able to recognize the importance of gender equity and understand that masculinities are an important part of the problem.

II. Research Design and Methodology

Through an analytical empirical study, data were gathered among undergraduate students of Computer Engineering and Systems Engineering from the Faculty of Engineering (UNJu). Based on the Future-Time Perspective theory [4] [5], and the intersectionality tool for gender studies [6], a data-gathering instrument was designed using Google Forms that combines predefined options and open-ended questions to facilitate expansive answers. Initially, the survey was conducted among a sample of 40 students, whose data are used in this paper. It includes various socio-demographic data, such as age, place of birth, years of study at the Engineering Faculty, and their majors. Gender and social class were determined by self-ascription. Furthermore, students were asked to identify their cultural background based on three key words. Regarding the gender distribution, 65% identified as male, and 35% identified as female. Nobody identified as 'other' genders. In the qualitative analysis phase, I selected themes and patterns among all the open-ended responses. Upon first reading, an overview of the entire set of ideas was acquired. Then, the analysis approaches the open and axial coding instances, using ATLAS.ti as a technological tool. In this process, the constant comparison method (CCM) is employed [7]. Finally, selective coding is carried out to integrate and interweave all the categories. Methodological and analytical triangulation strategies are applied throughout the whole process as important strategy allowing to encompasses various methods, including the constant comparison between primary and secondary data, as well as the temporal perspective that constitutes a dialectic between theory, reality, and applied techniques [8].

In Fig. 1, the theoretical approach summarizes the two main lines of exploration for understanding motivation and future projections, while also linking these to the interaction and cumulative effects of multiple forms of discrimination that impact people's daily lives and their future outlook. In a broader sense, it helps us to understand how various aspects of individual identity interact to create unique experiences of privilege or oppression.

The framework of the study acknowledges the structures of domination and recognizes that patriarchal society operates through symbolic violence, which is reproduced in symbolic power relations [9]. They are so effective because they appear as naturalized, as in the case of violence or micro-aggressions against women or non-normative sexualities. The dominance of patriarchy and its coercion are exercised and reflected in the discursive sphere, where signifiers are disciplined and organized into categories that correspond to the patriarchal symbolic regime [10].

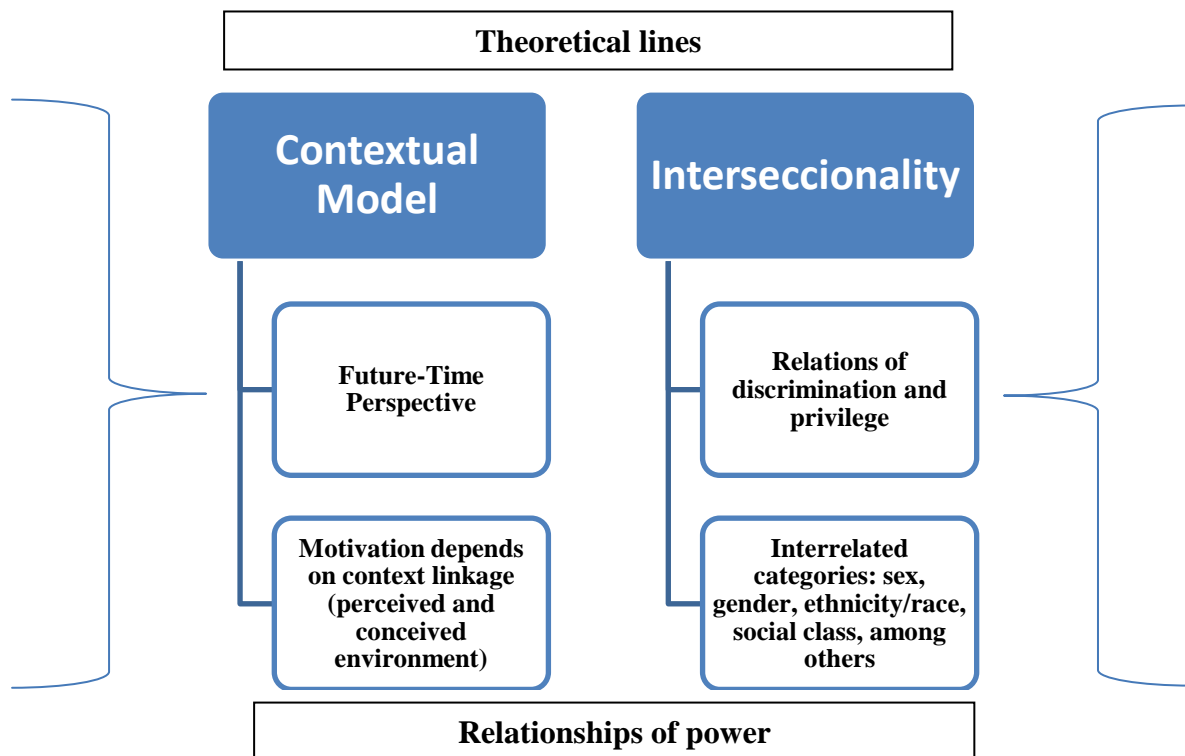


Fig 1: Theoretical approach to the problem

Regarding ethical procedures of the study, all participants are informed. Before starting the survey form it is clarified that the research is carried out within the framework of the project “Imagined Futures of Computer Engineering and Systems Engineering Students from a gender perspective” approved by the Faculty of Engineering (UNJu). Moreover, students were informed that their participation is voluntary, anonymous and confidential.

III. Situated Studies

A Brief Socio-Historical Contextualization of Jujuy, Northwestern Argentina

Jujuy is a province located in the extreme northwest of Argentina, on the borders with Chile and Bolivia. It is one of the smallest provinces in the country in terms of area. However, it stands out for its impressive geographic features, cultural diversity, and long history, due to early human settlements of different ethnic groups, including its role in the late period of the Inca government. The conquest and definitive occupation of the current province of Jujuy were part of the Spanish invasion process during the colonial period, beginning with the conquest of cities in the 16th century. However, the colonial system also included the distribution of lands and the domination of the conquered indigenous population. At this time, Jujuy was part of the Governorate of Tucumán, which strengthened the Hispanic dominion towards the south of the Viceroyalty of Peru. The enormous expansion of world markets since the 16th century, primarily driven by the European colonization of the Americas, generated new mercantile circuits, production transfer centers, and vast markets. In South America, the circuit linking Buenos Aires with Lima (Peru), studded with dozens of market-cities and Potosí (Bolivia), an important silver-producing center, stood out. To date, Jujuy is involved in the mining industry, as Argentines in the process of fully developing its lithium mining sector. Currently, it is one of the world's leading lithium producers and a key player in the transition to clean energy. In Jujuy, one of the most significant lithium plants in operation is located in Salar de Olaroz, operated by the company Sales de Jujuy.

The cultural context is intimately linked to the gender issue, which, in turn, is a social variable that is intertwined with others. Therefore, the intersectional approach examines how multiple socially and culturally constructed categories interact at different levels and how power relations and inequalities are reproduced. Consequently, we can observe how sex-gender discourses are conducted within various engineering institutions. [11] Intersectionality also constitutes an analytical tool that can help to uncover specific challenges, as will be



revealed in this study. However, it will also provide us with opportunities related to teaching practice and how to incorporate and integrate the gender perspective into the engineering classroom.

In order to understand the students of the National University of Jujuy, a precise socio-historical location of the province of Jujuy is necessary, evidenced by the historical and social processes in the Argentine northwest marked by migratory consequences, both from Andean, European and Middle Eastern regions, among others, a fact that reflects the demographic composition and the current sociocultural reality. The evidence is everyday life, especially in social behavior, such as the interaction of gender and class, gender violence and discrimination, and social exclusion of the popular sector. It is a society with traditional values dating back to the colonial period up to the present, which is strongly marked by patriarchal structures and male domination imposed by the Spaniards and Creoles. As a result, it can be interpreted as an asymmetrical distribution of power that seeks to transform differences (gender, ethnic-national, age, class, and religion) in all areas of social life into a hierarchy of inequality [12].

Interestingly, since colonial times, women have been assigned the passive role of the procreator, being at the husband's disposal, in addition to the image of the feminine subject with limited capacities. This situation persisted in the 19th century; however, through an idealistic lens, that attempted to instill in the social imaginary the model of a woman whose qualities were deemed to have been granted by nature. It is essential to understand that historiography has identified the underrepresentation of women in the history of Jujuy, which can be attributed, on the one hand, to their marginalized position in society, primarily as recipients of male instructions. On the other hand, it is obvious that there is an absence of documentation about female participation, even though women have been part of the social world, although not in public positions [13].

This fact can be applied to the situation of women's representation in STEM, where students were asked in a survey about female scientists in the fields of computer science or engineering. More than half (53%) answered that they do not know any or are unsure. The same problem is repeated, in the 21st century, female engineers participate in all fields, but they are not 'present' in the daily life or the mindset of students, because they are not visible or do not appear in the discourses considered as important. We are well aware of the influence of rhetoric and discourse, or, in technological terms, the factors that determine what appears first in virtual search results according to algorithms. A crucial aspect is the discursive power and the question of gender. According to Foucault [14], discourses are powerful and capable of shaping objects and events. The author refers to one of the strategies of power when it ceases to be a force and transforms itself into discourses and knowledge, reaching the daily life of individuals, their intellects, and desires to influence their ways of life.

IV. The Intersection of Gender and Social Class

In this study, one important pillar is intersectionality, which considers the socio-economic and demographic context, as well as gender roles, ethnicity, and class identification. Regarding class identification, in the region of northwestern Argentina, different social classes have been emerged, especially as a result of certain economic growth at the end of the 18th and beginning of the 19th century related to the establishment of the mercantilist economy where an oligarchy was established at the extremes, imposing its values and justifying its position through neocolonial servitude. This fact is closely tied to family reproduction strategies aimed at conserving and expanding political and social influence, in which women become the subject of exchange, institutionally justified by marriage. However, concerning the situation described and gender relations, it was not a homogeneous situation throughout the province of Jujuy. Historical studies sustain a difference between elite women and women from working-class or indigenous sectors, which lies in stricter social obligations, arranged marriages, and restricted sexuality. At the end of the colonial period, the situation of indigenous women differed from that of women in rural and urban areas of Jujuy [15].

I sustain that historical conflicts and social processes have an impact on our present and influence relationships in both society and the field of science, which are analyzed in this paper. Considering this, it is possible to explain and understand the cultural self-ascriptions where traditional values, such as family, stand out; however, there is also a diversity of identifications that depend on the student's origin and gender identification. Some cases are interesting and reaffirm the historical data, analyzing the explanations of female participants about their relationship with mother earth and the environment, in discussion with their own choice to study a career to become a computer engineer at the same time combining technology and sustainable awareness. This reaffirms the functional combined approach of intersectionality and the future perspective, as female respondents clearly show their competencies regarding present and future responsibilities, studying an engineering career despite the societal background with strong patriarchal roots, sexual division of labor, and competencies based on the biological characteristics associated with the sexes. She envisions herself in computer engineering in the future; however, she would like technology to coexist with nature, rather than harm it. Furthermore, the student points out that more sustainable solutions are necessary. This type of response is a result of the rootedness and cultural awareness in the Andean area, as well as the social competencies of women.



In another case, a female student was concerned about the global situation and even contemplated how to help disadvantaged regions, such as Africa.

Regarding self-identification or recognition of belonging to a specific social class, 63% responded that they belong to a low or lower-middle class, 35% identified as middle class, and 2% as upper-middle class, providing additional data for social analysis and the social background of the participants.

Finally, one important piece of data regarding the origin or ancestry of all survey participants is that 40% come from villages and rural areas of Jujuy province, rather than the capital city. One female student declared to be from a village in Bolivia. This reaffirms the mixed social backgrounds of students. Traditionally, in technical careers at the National University of Jujuy, there is a high percentage of students from working-class families. This is also because, in Argentina, education at national universities is entirely free of charge, including for foreigners. Additionally, scholarships are provided to students from the interior of the province and low-income families, as well as affordable or free hostels.

V. Gender Relationships and Masculinities

Results and Discussion

This part of the survey with specific gender related questions is the most relevant for this paper and caused concern regarding the answers. My attention was drawn to the lack of self-reflection on the gender topic by the male participants. The question following specific questions were asked:

- Do you think that gender condition influences access to opportunities in society in general?
- Do you think that gender condition influences access to opportunities in the field of computer science?
- In your social environment, have you experienced violence or discrimination because of your gender condition or sexual orientation?
- In the Engineering Faculty, have you experienced violence or discrimination because of your gender condition or sexual orientation?
- What measures do you think should be taken to achieve gender equity in the STEM area?
- Do you know female scientists who are leaders in the field of computer science? If yes, who?

Regarding the questions on opportunities in general and in the field of computer science, 88% of male students think that gender condition is not an issue, while 50% of female students think that there is an influence of the gender in having opportunities, the other 50% say 'no' or 'not sure'. This question in its roots is related to the gender gap in STEM in general (in most countries below 30% females), but also the occupation of leading positions in technological companies or scientific institutions where the gender gap is even wider. The answers indicate that students do not recognize the profound problem of in its full dimensions.

The gender violence question was related to the personal experience, in the case of female students, 21% affirmed having experienced gender violence in society, 42% say they are 'not sure', which means a large number of people may not know what exactly gender violence is or how can we identify it. In the case of male students the answers are strictly 'no', only in one case gender violence was identified both in society and in the faculty. This is an aspect to be considered in education, to make aware of subtle violences and micro aggressions. Because there is also gender violence regarding non-normative masculine population and latent homophobic expressions are on the agenda in daily lives. To be aware of this, first of all, students must be sure about the meaning and the varieties of violences. Analyzing the open-ended answers I realized that this is exactly the problem. That cannot identify gender as part of the historical construction of power relationships.

As before-mentioned, to recognize the problem, the cultural and historical context is of utmost importance. Male students show a lack of this comprehension and that they are actually part of the privileged group, that means, understanding the relationship between privilege and discrimination as outlined in the theoretical model. Although they widely mention that in the future they expect more equity and that educational and incentive measures should be taken mostly pointing out that women should be more interested or should be better educated in mathematics. The top of the iceberg is the total denial of the problem, that everything is "all right", "there is no need since there is no problem with it", or that it is "the fault of women that they are not more inserted in the 'hard' sciences". One male student answered to the question of future measures something should be done "that women more like mathematics, they are generally oriented towards other sciences, I don't know why". This means they do not recognize the historical processes and the problem of a patriarchal society with clear gender roles orientated in sexual division of labour.

Moreover, in some cases, male students express a particular annoyance. Not only are women blamed for not being part of engineering, but as if the discussion and raising those questions have to do with a gender "ideology" and that now everybody wants to favor women, a fact that has also been detected in other studies [16]. Several contestants take it a step further, suggesting that no measures are needed to address the gender gap.



One student was even blaming feminism as an ideology that can be considered as a turn into new forms of violence. Within the general context of Argentine society and the current neoliberal government, it is noticeable where the discourse comes from. Male students nowadays see themselves as “disadvantaged,” which makes it clear that they do not understand that it is not about one being better than the other, but about inclusiveness and openness to more human togetherness.

The answers make it clear that there is a need to discuss critically the historical process and the structures of domination. When it comes to gender, there are still the structures of domination in the context, for example, of the church, the family, the state, and the school, where mechanisms of violence were constructed[9]. This fact leads us to the problem of the patriarchal society that acts through symbolic violence that is reproduced in symbolic power relations [17], which are so effective because they appear as naturalized, as is the case of gender violence, especially against women.

The lack of socio-historical reflective competence among students must be taken seriously, and above all, reaffirms the need to include a gender perspective in the engineering classroom [3]. In the female responses, this socially reflective part is more elaborated in terms of awareness, although sometimes with fear, as in one case of one student, she begins her answer with "I don't want to be a feminist, but...", which shows that women and being a feminist are perceived as not usual. It also reaffirms that the term 'feminism' in this context carries a negative connotation. I want to point out that today we speak of feminism in the plural as women and their ideas are also diverse, which also has to do with the intersection with categories such as ethnicity and sexuality that inform us about discrimination and privileges.

In addition, as mentioned before, discrimination not only affects women, but also considers social-class disadvantages and violence against sexual diversity. I want to point out that one male respondent was keen to highlight an example from computer science, the case of Alan Turing, who was harassed and excluded from this field of science, because of sexual discrimination, since British law criminalized homosexuality until the 1960s. It is positive that at least one student recognized the dimension of the problem, beyond seeing it as only a female issue, but also wished for a more inclusive environment for the future. This example makes clear that it is not the gender alone and that the intersection makes sense for an in-depth analysis.

When I read through the survey, answers often coincide with traditional gender patterns, or when students openly blame women for the situation, I denominate this as stagnant masculinities where male students are trapped in the traditional and, for them, easy position of the privileged. In society, everybody is responsible. Women also often contribute to the patriarchal system, accepting a specific situation or their 'biological' role as a reproducer. However, when comparing the answers of male and female engineering students, a difference is observed. In contrast, women come up with new ideas or articulate their concerns in different aspects, whereas men tend to reaffirm that things will change naturally or that there is nothing to change. This is precisely a fact to worry about. Stagnant masculinities are those that do not see an opportunity for inclusiveness or hinder the emergence of new models in society.

Finally, the last question was specifically about female computer scientists. The idea was to measure whether students can identify women and their names. This issue is different than talking about the topic in general. It is precisely this question that gives another impulse to think critically. Who do we consider a scientist? Do students read enough to become familiar with approaches and names of (female) scientists? Out of all participants, 53% were unsure whether there were any or who to mention. Moreover, 15% of male contestants mentioned Marie Curie, who seems to be the only female scientist widely known. However, in this case, the question was about the specific field of computer science. Either students did not read the question correctly, or they cannot distinguish between physics, chemistry, and computer science. This example should make us aware of the invisible female contributions to science and prompt us to think urgently about strategies to change the situation. When women are not recognized or invisible, their acceptance and closing the gender gap will be impossible; again, this has to do with power relationships.

VI. Perspective for the Future

How to Change the Situation

The analysis and historical reflection have led me to think about how to approach to make students more aware of the topic, but also to take seriously the negative attitude of some of the participants. It is not about blaming individuals as the survey clearly shows, students are part of the society in general and as they are university students, they have already passed through family environment and different educational institutions where it was missed out to provide them with relevant education to become open-thinking citizens and to be prepared for a future where gender dichotomy and inclusion of otherness will be dissolved. Therefore, these topics should appear on the agenda of STEM education and not only for careers in humanities and social sciences. I suggest the following focal points to include in engineering education:

1. Discuss gender-sexuality-ethnicity-social exclusion and related topics in the class room.



2. Make visible female scientists, but not only as example or person, but with content of their achievements and their specific field of knowledge. Promote role models of diverse groups of people.
3. Develop strategies to explain that gender is not a fixed role, that it is a performance and that related ideas can be changed over time in the same way that culture is not a fixed static concept. People construct and reconstruct these ideas.
4. Redefine masculinity according to our time being aware of the problematic vision on masculinity of the past.
5. Allow that everybody can have feelings and soft skills. Promote that we are humans and must find a way to promote inclusion as benefit for our society.

VII. Conclusion

In this paper I tried to explain the importance of the discussion of gender relationships due to alarming articulations and certain denials of gender issues from the male participants in the survey. It is clear that they do not recognize the socio-historical situation of their environment and society, and that they occupy a privileged role. The study considers multiples categories, not only gender, which reaffirms the usefulness of the perspective of intersectionality and FTP. That is to say, if in the present the historical processes are not clear, it is not possible to make a fruitful projection to the future which is necessary to successfully insert in professional life of the 21th century with every time more transnational working teams and gender diversity.

In conclusion, we must continue to search for educational strategies that are situated, recognize our history and work together on this issue with students. This also includes the redefinition of masculinities, especially in the 'hard' and male-dominated sciences such as engineering. Our aim should be helping dismantle mental barriers, but also confront students with history and social problems of their close society.

VIII. Acknowledgements

This study is funded by National University of Jujuy – Engineering Faculty under the approval CAFI No 191/24. I acknowledge the support of the Engineering Faculty and the time of the participants who kindly contributed to this study.

References

- [1] S. M. Merchán-Rubiano, K. B. Villalba, G. K. Koeltzsch. & G. Pascal, Analysis of gender-based violence as cause of the gap situation in engineering in Latin America, *Proceedings World Engineering Education Forum-Global Engineering Deans Council (WEEF-GEDC)*, 1-6. IEEE, Monterrey, Mexico, 2023, 1-6. DOI: 10.1109/WEEF-GEDC59520.2023.10344034
- [2] E. N. Cruz, Mujeres en la Colonia. Dominación colonial, diferencias étnicas y de género en cofradías y fiestas religiosas en Jujuy, Jujuy, Río de la Plata, *Anthropologica* 23(23), 2005, 127–150.
- [3] G. K. Koeltzsch, Construyendo puentes desde la perspectiva de género en el aula. El diálogo docente-estudiante y los primeros resultados. In M. T. Garibay & L. E. Rathmann (Eds.), *Matilda y las mujeres en ingeniería en América Latina*, 6 (Bogotá: CONFEDI, ACOFI, Y LACCEI, 2004) 53-57.
- [4] K. Lewin, *A dynamic theory of personality* (NY: McGraw-Hill, 1935).
- [5] J. Nuttin, *Future Time Perspective and motivation: theory and research method* (Hillsdale, NJ: Erlbaum, 1985).
- [6] K. W. Crenshaw, Mapping the Margins: Intersectionality, Identity Politics, and Violence against Women of Color, *Stanford Law Review* 43 (6), 1991, 1.241-1.299.
- [7] J. Corbin & A. Strauss, *Basics of Qualitative Research: Techniques and Procedures for Developing Grounded Theory*, 3rd ed.(Thousand Oaks, CA: Sage, 2008).
- [8] N. K. Denzin, *Strategies of Multiple Triangulation. The Research Act: A theoretical Introduction to Sociological Methods* (NY: McGraw Hill, 1989).
- [9] P. Bourdieu, *La dominación masculina* (Barcelona: Anagrama, 2000).
- [10] R. Segato, *Las estructuras elementales de la violencia* (Buenos Aires: Prometeo Libros, 2021).
- [11] G. Pascal, G. K. Koeltzsch & M. Tevez Saucó, El discurso sexo-genérico en las instituciones de ingeniería: un análisis crítico, *Proceedings 4th LACCEI International Multiconference on Entrepreneurship, Innovation and Regional Development*, Boca Raton, USA, 2024, 1-6.
- [12] J. P: Ferreira, Relaciones de poder y de género en el período colonial de los siglos XVII y XVIII. In E. N. Cruz (Ed.), *Mi propiedad privada. Relaciones de poder y de género en el período colonial (Jujuy, siglos XVII al XIX)* (S. S. de Jujuy: Purmamarka Ediciones, 2013) 17-38.
- [13] M. Rocabado, *Dulces, buenas y putas. Sexo bajo control en Jujuy (1890-1930)* (S. S. de Jujuy: Purmamarka Ediciones, 2012).
- [14] M. Foucault, *Vigilar y castigar: nacimiento de la prisión*. (Buenos Aires: Siglo XXI, 1976).



-
- [15] E. N. Cruz, *Mi propiedad privada. Relaciones de poder y de género en el período colonial (Jujuy, siglos XVII al XIX)* (S. S. de Jujuy: Purmamarka Ediciones, 2013) 39-65.
- [16] K. B. Villlba, Algunos jóvenes se preguntan: ¿por qué insisten en empoderar a las mujeres? In M. T. Garibay & L. E. Rathmann (Eds.), *Matilda y las mujeres en ingeniería en América Latina*, 6 (Bogotá: CONFEDI, ACOFI, Y LACCEI, 2004) 229-231.
- [17] P. Bourdieu, *Cosas dichas* (Buenos Aires: Gedisa, 2007).