

**Gender: learning styles****Género: estilos de aprendizaje**

SÁNCHEZ-RIVERA, Lilia†\*, ESPERICUETA-MEDINA, Marta Nieves, RAMOS-JAUBERT, Rocío Isabel and SOLÍS-RANGEL, Emmanuel

*Universidad Autónoma de Coahuila, Faculty of Science, Education and Humanities, México.*

ID 1<sup>st</sup> Author: *Lilia Sánchez-Rivera* / **ORC ID:** 0000-0001-9468-2599, **Researcher ID Tomson:** T-1404-2018, **CVU CONAHCYT ID:** 613195

ID 1<sup>st</sup> Co-author: *Marta Nieves, Espericueta-Medina* / **ORC ID:** 0000-0002-4924-7632, **Researcher ID Thomson:** T-1500-2018, **arXiv Author ID:** Espericueta2018, **CVU CONAHCYT ID:** 372705

ID 2<sup>nd</sup> Co-author: *Rocío Isabel, Ramos-Jaubert* / **ORC ID:** 0000-0003-3289-5390, **Researcher ID Thomson:** T-1652-2018, **CVU CONAHCYT ID:** 201861

ID 3<sup>rd</sup> Co-author: *Emmanuel, Solís-Rangel* / **ORC ID:** 0009-0008-3676-1481, **CVU CONAHCYT ID:** 1297782

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**Abstract**

The general objective of this article was to identify the differences in opinion between gender and learning styles of higher-level students. The Schmeck ILP-R questionnaire was applied to 1412 people with non-probabilistic convenience sampling. The results were analyzed with descriptive and comparative analysis with the Student's T test for independent samples and significant data were obtained on the scales of self-efficacy, self-affirmation, self-esteem and elaborative processing of learning styles. The contribution of the comparative analysis was that the female gender, in terms of self-efficacy when performing a school task, presents greater problems such as confusion and nerves, unlike the male gender, in addition, they have a different elaborative processing than the male gender, in relation to having a greater interest in their self-development, they are women who give more attention and interest to the values learned in the family, they follow their intuition, their experience and their decisions are influenced by their feelings.

**Gender, Styles, Learning****Resumen**

El objetivo general del presente artículo fue identificar las diferencias de opinión entre género y estilos de aprendizaje del estudiantado de nivel superior, se aplicó el cuestionario de Schmeck ILP-R a 1412 personas con un muestreo por conveniencia no probabilístico. Los resultados se analizaron con el análisis descriptivo y comparativo con la prueba T de Student para muestras independientes y se obtuvieron datos significativos en las escalas de autoeficacia, autoafirmación, autoestima y procesamiento elaborativo de los estilos de aprendizaje. El aporte del análisis comparativo fue que el género femenino en cuanto a la autoeficacia al realizar una tarea escolar presenta mayores problemas como la confusión y nervios a diferencia del género masculino, además, poseen un procesamiento elaborativo diferente que el género masculino, en relación a tener un mayor interés en su autodesarrollo, son mujeres que dan más atención e interés a los valores aprendidos en la familia, siguen su intuición, su experiencia y sus decisiones se ven influidas por sus sentimientos.

**Género, Estilos, Aprendizaje**

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\* Correspondence of the Author (E-mail: mnieves@uadec.edu.mx)

† Researcher contributing as first author.

## Introduction

Castañeda & Díaz (2020) mention that the gender approach gives rise to an understanding of what development processes imply and the differences that each society has when thinking about how men and women should act, regardless of the biological sex assigned to a person at birth, which intersects with the different identities and sexual orientations that exist.

Vera (2020) states that, traditionally in a patriarchal culture, the male gender is attributed the power to make decisions about situations that are considered more complicated in a woman's life, in addition to being taught to be independent and make these decisions on their own and without consulting anyone, while the female gender is taught that they should look for someone who can decide and answer for them.

Citing (Ramírez et al., 2019) gender is widely understood as a binary construct, i.e. society is used to taking into account only heterosexual cisgender men and women as the only categories that exist to define the gender spectrum.

For Guerra (2016), the word gender has been debated by different currents and schools, it can be identified that gender studies begin with the biological characteristics of human beings and their behaviours based on sexual differentiation, as well as different aspects such as individual traits, psychological traces and cultural constructions of kinship.

Gauché & Lovera (2019) mention that gender identity is a manifestation of the right we all have to have a general identity as persons, which is acquired and can be learned over time, and changes depending on different factors such as the culture of the community in which a person is immersed.

The United Nations (2023) defines gender equality, in addition to being a human right, as a fundamental part of societies in order for them to be peaceful and capable of developing in a sustainable way.

It is important to reflect on the term gender, different authors according to their conceptualisation limit it in a dichotomous way: man and woman, however, at present this is only biological aspects, independently of the cultural, social and psychological constructions that allow the development of the gender focus of the human being.

Before addressing the issue of learning styles, it is important to talk about learning, for Mendoza & Viguera (2019) state that, although the learning outcomes of students in a school environment depend a lot on the knowledge, skills and values acquired or developed previously, another factor that is also paramount, is the quality of the teacher, i.e. the way and extent to which teachers manage to build the foundations of learning and prior knowledge.

Olmedo-Plata (2020), citing Gagné (1965) in his work, mentions that "learning is a change in the disposition or capacity of people that can be retained and is not attributable to the process of growth" (p. 5).

Padilla et al. (2020) point out that adolescents and young people have developed the ability to seek information and learn autonomously, and, although they generally do so for recreational purposes or to satisfy a personal need, these habits can be applied in their school life.

Rodríguez-Saltos et al. (2020) are of the opinion that psycho-pedagogy optimises the teaching-learning process through the correct application of didactic resources that can facilitate the construction of knowledge and lead to a much more complete learning process.

Coello (2019) affirms that cooperative learning is a positive contribution in the educational context, as it seeks to increase knowledge through coexistence among students who have common goals and interests.

Now, the term learning styles has been developed by various authors; they are defined as cognitive, psychological and affective characteristics that the student community uses as constant determinants to some extent of their style of perception, reaction and interaction, which allows them to obtain and process knowledge when faced with difficult and new information (Moussa, 2014), likewise, Velasco Yañez (1996) comments that they are the set of biological, motivational, social and environmental characteristics that a human being develops to perceive, process, retain and accumulate information, which constitutes their particular way of learning and cognitive processing. While (Schmeck & Lockhart, 1983) mention that learning styles should be analysed as the tendency of a learner to absorb a particular learning strategy independent of the environment. (Cited by Tarazona et al., 2021).

Domínguez et al. (2015), according to the results of the analysis of variance (anova) the sample grouped by the gender variable, it can be read that both the female and male gender have a moderate preference for the reflective and active, pragmatic and theoretical Learning Styles; it stands out that the male gender has a low preference with moderate tendency the reflective style. With regard to the results of the Student's t-test for independent samples, significant differences are observed in that the male gender has a greater preference for the active learning style.

In relation to learning style and gender; Torales et al. (2018) according to their research results mention that there is a relationship between the pragmatic and reflective styles and the male gender. In turn, Freiberg et al. (2017) showed that there was a greater tendency for the pragmatic style in the male gender (cited by Porras et al., 2021).

Castaño (2012) in his research work observes the significant differences between genders with learning styles, his objective is to check if there are differences between women and men in the learning styles of reflective, active, pragmatic and theoretical of the CHAEA questionnaire.

The style that shows significant differences between women and men is the theoretical learning style.

With the female group scoring lower than the male group.

Therefore, gender and learning styles are topics that observe individual differences, which can be part of the various elements that build the gender approach, as well as the first approach to knowledge, in order to later process, retain in memory and elaborate information in various learning contexts.

### Methodology to be developed

In this article, the ILP-R (Schmeck) learning styles questionnaire was applied. The main question was: What contrasts are significant between gender and learning styles? It was applied by means of Google Forms to 1412 higher education students, with a non-probabilistic convenience sampling. The instrument was analysed for gender and scales addressing the topic of learning styles measured from 1 to 6.

The responses obtained were exported to an Excel spreadsheet and the database was cleaned, and then subjected to the statistical processing of Cronbach's Alpha, which gave a result of 0.91, and a descriptive and comparative analysis was also carried out; this being a type of quantitative, synchronic, cross-sectional, descriptive and comparative type of research.

### Results

#### *Descriptive analysis*

#### Frequencies and Percentages

In this section the variables that characterise the gender of the student body were processed by means of an analysis of frequencies and percentages of the 1412 subjects.

The results of the survey show that females are the most represented with 64.38% of the total population (n=909), while males are represented with 36.06% of the total population (n=495).

*Comparative analysis*

In this section, an analysis is carried out using the Student's t-statistic procedure for independent samples, with a confidence level of 95%. The purpose is to observe the significant differences between the means of the gender group and the scales of the questionnaire being self-efficacy, self-affirmation, self-esteem and elaborative processing of learning styles.

The working hypothesis H1 = there are significant differences between the comparison groups.

*Gender in contrast to self-efficacy*

The first analysis shows 9 utility variables between gender and the self-efficacy scale, it is observed according to the mean comparison analysis that the female gender has problems to mentally organise the information they store in their mind, although they know they have carefully studied the subject, they have problems to remember it before the exam; they often feel confused about what they have studied and when they take the exam, they sometimes get extremely nervous unlike the male gender. On the contrary, men consider that they think faster, get good marks in term papers, do well in exams that require a lot of facts, that for them, taking exams is like a sport they can win and that they are good at choosing the right answer in a multiple-choice exam, unlike women.

*Gender in contrast to self-affirmation*

The second analysis shows 3 utility variables between gender and the self-affirmation scale, from which we read that the male gender strengthens their self-affirmation by expressing that they disagree with an opinion, they find it easier to speak in public and they consider themselves outgoing and open, unlike the female gender.

*Gender in contrast to self-esteem*

The third analysis shows 5 variables of usefulness between gender and self-esteem, in the analysis it is observed that the female gender tends to feel bad about criticism they may receive, they need guidance, they get angry easily when things do not go as planned, they value what other people may think of them and they tend to be more nervous in contrast to the male gender.

*Gender versus elaborative processing*

According to the comparative analysis of the means of the variables, it can be seen that the female gender shows greater interest in self-development, associate words, invent a system of study, relate to real life, believe that experience is important, consider life an adventure, make decisions based on feelings, consider other people's ideologies, show interest in family values, are intuitive, deviate with their own ideas and think with images, in contrast to males.

**Conclusions**

According to the results, the working hypothesis H1 = there are significant differences between the comparison groups.

And it is concluded that the female gender has more confusion and nerves than the male gender, i.e. in terms of self-efficacy when performing a school task the female gender has more problems.

In addition, the male gender is more extroverted in relation to self-affirmation while the female gender is more introverted.

It is concluded that men feel good when expressing their disagreement with the ideas of someone important, do not find it difficult to speak in public and have a more extroverted personality than women.

It is noted that the male gender has a higher self-esteem than the female gender, because they attach importance to criticism and what they may think of them.

The feminine gender has a different elaborative processing than the masculine gender, in relation to having a greater interest in their self-development, they are women who pay more attention and interest to the values learnt in the family, they follow their intuition, their experience and their decisions are influenced by their feelings.

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