PSYCHOLOGY
RESEARCH

SUMARIO / SUMMARY / RESUMO

Editorial

We begin the seventh issue of the magazine with interesting research articles. The first article addresses psychosocial aspects such as emotions and behaviors that affect the well-being of an individual and that influence the moment of making decisions or carrying out an activity. This study aimed to identify the psychosocial aspects in the personal, social and material sphere that influence the participation of women in community enterprises in the Namasigüe River Sub-basin, Honduras. The article concludes that to strengthen community enterprises it is necessary to work under a family approach. In this way, women reduce negative psychosocial impacts and aspects and their level of empowerment is improved.

The second work evaluates the levels of loneliness and depressive symptoms in health sciences students, for which a descriptive cross-sectional study was carried out with a total of 156 participants. The results found show that university students present high levels of depressive symptoms and loneliness, and emphasize the importance of creating prevention and treatment programs against these mental health conditions.

The following contribution determines the relationship between the perception of parents and children regarding parenting styles and the way in which it manifests itself in the meaning of life of adolescents. The data indicated that the participating parents are mostly women, that the meaning of life of the adolescents is "undefined" and that it is the democratic dimension that predominates the most. It was found that there is a relationship between the perception of the parenting styles of parents and children with respect to the meaning of life.

The fourth article is based on a quasi-experimental study whose objective is to evaluate the effects of a strategy based on pedagogical mediation for the development of students' metacognition. The intervention strategy is developed for four months in two strategy application sessions per week. The work shows the effectiveness of the intervention strategy based on mediation pedagogy in the deployment of metacognitive skills that are fundamental in solving academic problems.

The fifth proposal aims to analyze different perspectives on the effect of virtual education and confinement on the emotions of children from two to five years old and their families in a pandemic context. The results suggest that children experienced changes in their emotions in the midst of the pandemic and teachers and parents also expressed changes in their emotions, experiencing more tension and stress as a result of virtual education. It is also found that the fear of contagion can impact the expression of affection and the spontaneity of boys and girls.

The sixth article explores stress, depression, emotional experiences, family trust and resilience in families who have a child with a disability. The study showed that having a child with a disability can cause stress and depression responses in the family; however, despite this impact, families show coping skills and confidence in caring for their child.

The penultimate article analyzes the relationship between suicide attempt and HIV diagnosis in the municipality of Ibagué Colombia during the years 2020-2021. The study has an observational, cross-sectional, comparative section and a relationship between two events. It is observed that during the year 2020 there were 1,106 suicide attempts and 361 HIV diagnoses; For the year 2021, a frequency of 933 suicide attempts, and 335 HIV diagnoses. It is concluded that there does not seem to be a strong relationship between the risk of suicide and having HIV.

We close the issue with a research that tries to know the competence to learn by police officers based on different dimensions: self-management of learning, construction of knowledge, personal knowledge as a learner and knowledge transfer. No gender differences were found and differences are verified between the dimensions, with the transfer of learning and personal knowledge as a learner predominating while the self-management of learning and the construction of knowledge have lower scores.

Dr. Juan Luís Martín Ayala
Editor Jefe / Editor in chief / Editor Chefe

Psychosocial aspects influencing the participation of rural women in Honduras in community entrepreneurship
Aspectos psicosociales que influyen en la participación de mujeres rurales de Honduras en emprendimientos comunitarios

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	ABSTRACT
	Los aspectos psicosociales son emociones o comportamientos que afectan el bienestar de un individuo y que a la vez influyen en el momento de tomar decisiones o realizar alguna actividad. Para este estudio se tomó en consideración tener como objetivo identificar los aspectos psicosociales en el ámbito personal, social y material que influyen en la participación de mujeres en emprendimientos comunitarios en la Subcuenca del Río Namasigüe, Honduras. Metodología: Las 38 mujeres tenían el interés en común de ser parte del establecimiento de una planta procesadora de frutas. Para este estudio exploratorio, la información se recolectó a través de una encuesta que contenía 11 preguntas demográficas 52 preguntas tipo "Likert" y 33 preguntas relacionadas con violencia doméstica, participación en emprendimientos y migración. Resultados: Mediante un análisis descriptivo se identificó que las mujeres percibieron que la adquisición de conocimiento, autoconfianza, equidad de género, empoderamiento económico y realización personal son aspectos psicosociales que influyen positivamente para la participación en emprendimientos comunitarios. Mientras que, la automarginación, la subordinación, la cultura patriarcal y la desintegración familiar tienen un impacto negativo en dicha participación. Discusión: La percepción de aspectos psicosociales relacionados con la participación en emprendimientos comunitarios juega un papel fundamental en la aceptación de proyectos comunitarios que impulsan la creación de negocios liderados por mujeres. Conclusiones: Para potenciar los emprendimientos comunitarios es esencial adoptar un enfoque familiar. De este modo, se disminuyen aspectos psicosociales negativos, y las mujeres experimentan un fortalecimiento en su participación empresarial

RESUMEN

Palabras clave:
desarrollo, dimensión psicológica, empoderamiento femenino, género, transformación comunitaria.

Psychosocial aspects are emotions or behaviors that affect an individual's well-being and at the same time influence the moment of making decisions or performing an activity. The objective of this study was to identify the psychosocial aspects in the personal, social, and material spheres that influence the participation of women in community enterprises in the Namasigüe River Sub-basin, Honduras. Methodology: The 38 women had a common interest in being part of the establishment of a fruit processing plant. For this exploratory study, information was collected through a survey containing 11 demographic questions, 52 Likert-type questions, and 33 questions related to domestic violence, entrepreneurship participation, and migration. A descriptive analysis was carried out, and it was identified that, within the personal dimension, the psychosocial aspect that positively influences the obtaining of knowledge and negative self-marginalization. Results: In the social dimension, the positive is gender equality, and the negative is subordination. Finally, in the material sphere, the positive is personal fulfillment, and the negative is self-marginalization. Discussion: Psychosocial aspects can positively or negatively impact rural women participating in community enterprises. Therefore, they play a fundamental role in the adoption of community projects. Conclusion: To strengthen community enterprises, it is necessary to work under a family approach in this way, women reduce the impacts and negative psychosocial aspects, and their level of empowerment is improved.

Introduction

Women's participation in community ventures is influenced by psychosocial aspects (Cruz, 2016). These psychosocial aspects are manifested through emotions and behaviors (Castrillón y Alzate, 2016). Madrid (2017) grouped these psychosocial aspects into three fundamental dimensions: personal, social and material. The personal dimension includes self-marginalization, self-confidence, autonomy, self-fulfillment, as well as discrimination, oppression, subordination and gender inequality (Álvarez, 2015; Dakduk, 2010; De Gorgue y Gálvez, 2017; Duarte y García-Horta, 2016). On the other hand, in the social dimension, psychosocial aspects associated with self-esteem, educational level and family support are emphasized (Madrid, 2017). They also emphasized the importance of taking into account psychosocial aspects related to cultural beliefs in this dimension, Cortés et al. (2008) emphasized the importance of taking into account the psychosocial aspects related to cultural beliefs in this dimension. In the material or economic dimension, psychosocial aspects related to income (because it generates financial independence), self-image, family dynamics, social status and work responsibilities are recognized (Banda et al., 2013; Cavieres et al., 2020; Cortés et al., 2008; Díaz y Carrasco, 2018; Segura-Barón et al., 2019; Viadana et al., 2016)

According to the Programa de las Naciones Unidas para el Desarrollo (2016) and Noa (2019) psychosocial aspects have the capacity to provoke exclusion and discrimination based on race and gender. An example of this is the social expectation that women take care of household chores and child rearing (Burín et al., 1990)this contributes to women facing a greater number of distressing situations compared to men (Mouriño y Viniegra, 1991). Because women have less time and resources to devote to other areas of their lives, they become more susceptible to inequalities in the workplace, in education and in the expression of their opinions in public spaces. These situations have a negative impact on their psychosocial well-being.

Women participate in the development of community enterprises, and this participation is attributed, at least in part, to female empowerment (Barrera-Bassols, 2006; Larson et al., 2019). In the context of this study, female empowerment is defined as a process in which women's abilities are strengthened, so that they do not feel limited, but become protagonists in decision-making in enterprises. At the same time, there is an internal valuation relevance on the part of women. It is therefore necessary to empower women so that they can have the freedom to participate in different activities that provide them with an economic income and thus promote the objectives of sustainable development and respect for human rights (Saavedra y Camarena, 2018).

Although Honduras has made some progress in gender development, it still faces notable challenges. In 2015, the country registered a gender development index of 0.942, the lowest in the Central American region (Programa de las Naciones Unidas para el Desarrollo, 2016). This figure showed a considerable gap in progress toward gender equity. However, it is relevant to note that Honduran women represent approximately 42% of the active labor force, playing a crucial role as economic drivers in the country (Banco Mundial, 2017). Therefore, it is necessary to carry out projects with more solid approaches to strengthen women's empowerment in Honduras and reduce existing gaps in gender development.

The study conducted by Larson et al. (2019) in the western region of Honduras addressed the conditions of empowerment of Honduran women in relation to key dimensions and the extent to which empowerment is related to food security and dietary diversity. The results of the study indicated that dimensions related to restrictions in access to goods, credit and income have a negative impact on women's empowerment. Larson et al. (2019) noted the need for more detailed research to thoroughly understand the drivers of women's empowerment in the agricultural sector.

Therefore, this study was conducted in collaboration with the Women's Network of the municipalities of Namasigüe and Santa Ana de Yusguare, located in Choluteca, Honduras. The main purpose of this research was to identify perceptions about the psychosocial aspects that influence women's participation in entrepreneurship in the sub-basin of the Namasigüe River in southern Honduras. To this end, we sought to describe the perceptions of the positive and negative impacts at the family level of the participation of women exposed to new ventures. The reasons why women feel they face obstacles to their empowerment in social, economic, political and cultural aspects were also determined. Finally, the psychosocial aspects linked to the personal, social and material dimensions that most influence women's participation in decision-making in new ventures were identified.

Method

In order to carry out this descriptive-exploratory qualitative study, visits were made to the community of Namasigüe in February 2020. The purpose of these visits was to establish interactions and build trust with the women belonging to the Women's Network of the Namasigue River Sub-basin. These women have received technical support from development programs: DEIT SUR, Water Governance and EmpoDeraT. All initiatives are funded by the Swiss Agency for Development and Cooperation (SDC).

For the selection of the target group of the study, the snowball technique was used, locating the active women of the Network. Thirty-eight women participated (eight women from the municipality of Santa Ana and 30 women from the municipality of Namasigüe), who responded by telephone to a survey with 11 questions on demographic aspects of the participants and 52 five-choice Likert-type questions to measure attitudes such as agreement or disagreement on the psychosocial aspects that influence participation in community enterprises. The remaining 33 questions were related to aspects of domestic violence, participation in entrepreneurship and migration of women in the municipalities of Santa Ana de Yusguare and Namasigüe. The survey was conducted by telephone because Honduras was declared in a state of total quarantine due to the COVID-19 pandemic and there were movement restrictions.

For the construction of the survey, a literature review was carried out to ensure that the questions were supported by information from previous studies or identification of similar questionnaires. Likewise, it was verified in detail that each question was directly linked to the specific variables to be measured in relation to the research objectives. This contributed to the relevance of each question within the questionnaire. A pilot survey was then prepared and applied to a small group of people and, once the results were obtained, adjustments were made, such as eliminating questions or improving the wording to avoid possible ambiguities in the interpretation of the questions. Once it was ensured that the survey was adapted and ready to collect data effectively, it was applied to the target population.

The data analysis for the description of perceptions of positive and negative impacts at the household level on the participation of women exposed to new ventures was conducted using a narrative approach. Considering the open-ended question, what are the advantages and disadvantages that are reflected in the family when women participate in new ventures? Through this narrative method, we sought to capture holistically the experiences and perspectives of the women participants, thus allowing for a detailed and contextualized understanding of the effects that this participation in entrepreneurship has on the family environment. This narrative method not only provided a qualitative analysis, but also allowed us to give voice to the women as they were protagonists in sharing their experiences. Their narratives were then coded and by identifying similarities in the experiences shared by the participants, the recurrent expressions were grouped together. In this way, it was established

that these repetitions represented the positive and negative aspects that influence family dynamics when a woman participates in entrepreneurship.

In order to evaluate the participants' attitude towards psychosocial aspects in the personal, social and economic dimensions, frequency calculations were made. It should be noted that, in order to make these frequencies, the Likert-type questions in the survey that were linked to the psychosocial aspects mentioned by the women in their responses were grouped together. Then, based on the literature reviews previously carried out, these psychosocial aspects were assigned to the corresponding dimensions.

On the other hand, to analyze the different psychosocial aspects related to the personal, social and material dimensions, indicators were constructed for each dimension. In this process, weights were assigned to each response to the Likert questions, where the scale ranged from "Strongly disagree" with a weight of 0, to "Strongly agree" with a weight of 4, and with intermediate values for intermediate responses such as "Disagree", "Neither agree nor disagree" and "Agree". Subsequently, each indicator was converted by adding the frequency of "Likert" responses multiplied by the weight assigned to each question. This method helped with the identification of both positive and negative indicators.

Ethical aspects

At the time of data collection, the women participants were consulted and asked for their authorization for data analysis and subsequent publication of results with the scientific community. Also, the integrity of their answers was ensured, since the information provided during the surveys was transcribed exactly to their original expressions, i.e. no modifications were made. In addition, the objectives of the research and the purpose of the survey were clearly communicated to them, thus establishing total transparency with the participating women of the Network. Once the results of the study were available, they were shared with women from the Network and programs that had technical intervention in the area. This feedback process ensured that participants were informed about the findings, thus fostering a collaborative and participatory approach to the analysis of the results and promoting transparency at all stages of the research.

Results

Eighty-seven percent of the participants were housewives, which they combined with participation in the activities planned by the Women's Network of the Namasigue River sub-basin. In relation to the positive impacts derived from their participation in ventures (Figure 1), women reported significant improvements in the income, health and education of their family members. At the same time, they highlighted an increase in community participation because they are involved in board meetings and school convocations. Knowledge generation was also highlighted, as women acquire knowledge that they then share with other family members, creating a multiplier effect. Likewise, a strengthening of self-esteem was observed, as the women experienced greater self-confidence and overcame the feeling of limitation when expressing themselves in public.

Figure 1

Positive impacts of women's participation in entrepreneurship on the family
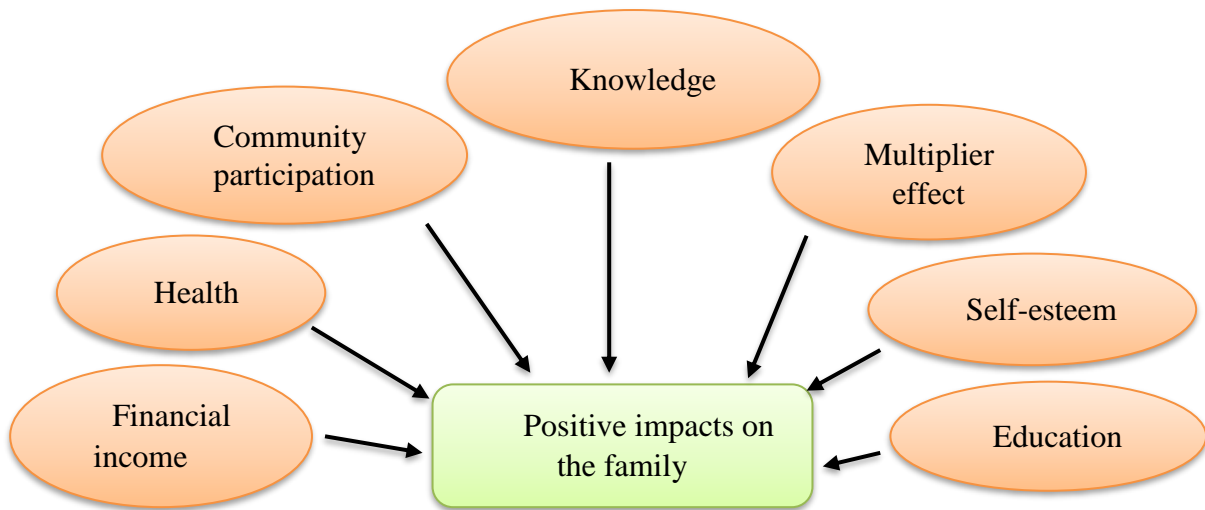
The the negative impacts that women identified due to their participation in entrepreneurship (Figure 2) are mostly related to discussions at the couple level. The women's partners express disapproval at the idea of their leaving home and being exposed to new contexts, thus generating possible conflicts that may affect family cohesion. In addition, there is evidence of a double workload, as women must fulfill domestic responsibilities and then devote time to the activities of the enterprise, which leads to the perception of neglect of household chores and childcare. Another important aspect is the lack of financial and emotional support from family and partners.

Figure 2

Negative impacts on the family of women's involvement in entrepreneurship
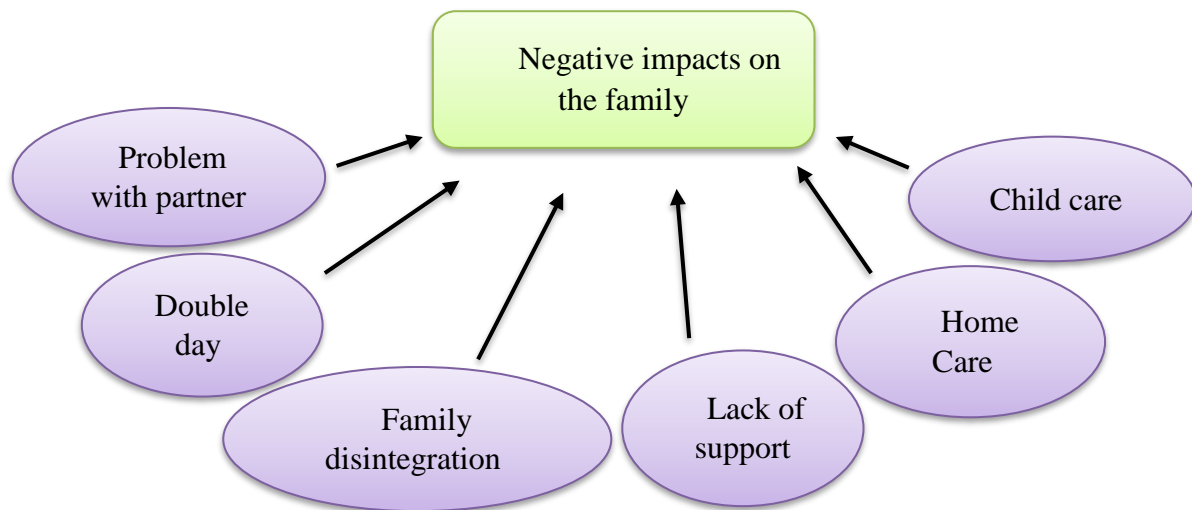
In the study, the women identified six psychosocial aspects that influence attitude toward the personal dimension: 1) self-marginalization, 2) autonomy, 3) self-fulfillment, 4) integration, 5) self-confidence and 6) knowledge. The estimated frequency and percentage of women's responses for each statement related to each psychosocial aspect in the material dimension (Table 1).

Table 1

Frequency and percentage of the psychosocial perception of the personal dimension (n=38)

Psychosocial social aspect / item	TD + D n (%)		N n (%)		TA+ A n (%)	
Personal realization						
I always finish the activities I start	1	2.63	2	5.26	35	92.1
I am a woman who likes to think of new creative activities	1	2.63			37	97.36

Psychosocial social aspect / item	TD + D n (%)		N n (%)		TA+ A n (%)	
Autargination						
I believe that it is not right to be away from home to attend meetings	31	81.58	1	2.63	6	15.78
My upbringing at home taught me to stay home alone.	15	39.47	1	2.63	22	57.89
Women should devote more time to taking care of the house and children	18	47.37	10	26.32	10	26.31
Self-confidence						
It is necessary for women to take time for themselves	2	5.26	1	2.63	35	92.1
I like to make my opinion known to others					38	100
A woman can become a good entrepreneur					38	100
Autonomy						
A woman can express her opinion freely	4	10.53	3	7.89	31	81.57
Making one's own decisions without help from others is important	10	26.32	7	18.42	21	55.26
I consider that a woman cannot take the initiative at home or outside the home	30	78.95			8	21.05
No, I like to participate in activities because I feel that my opinion will not be taken into account	25	65.79			13	34.21
I need the approval of another person to feel secure with my decisions	14	36.84	3	7.89	21	55.26
Knowledge						
The more education, the better the decisions that are made					38	100
Integration						
I feel good to be part of events and meetings in my locality					38	100
I like to participate in cultural events in my community	2	5.26			36	94.73
I think that development programs help you to improve as a person.	1	2.63			37	97.36

Note. TD= Strongly Disagree; D= Disagree; N = Neither Agree nor Disagree; TA = Strongly Agree; A= Agree.

Women recognized five psychosocial aspects that influence attitude in the social dimension: 1) patriarchal culture, 2) gender equity, 3) group identity, 4) subordination, 5) valorization and empowerment. The estimated frequency and percentage of women's responses for each statement related to each psychosocial aspect in the social dimension (Table 2).

Table 2
Frequency and percentage of psychosocial perception of the social dimension (n=38)

Psychosocial social aspect / item	TD + D n (%)		N n (%)		TA+ A n (%)	
Patriarchal culture						
The man should always be the decision maker in the household	30	78.9	5	13.15	3	7.89
Gender equity						
Women should be involved in community decision making.					38	100
Group identity						
I like to participate in activities, programs and meetings on a regular basis	1	2.63	1	2.63	36	94.74
I teach my children to participate in community activities.	2	5.26			36	94.74
Subordination						
To participate in activities outside the home, I must request permission from my partner/family/parent	25	65.78	3	7.89	10	26.32
Valorization						
My work is valued and recognized at home	4	10.52	3	7.89	31	81.58
My family often values and recognizes the work I do at home.	9	23.64	1	2.63	28	73.68
My partner/friends/family are okay with me participating in development programs	1	2.63	3	7.89	34	89.47
Empowerment						
My opinion is taken into account when making decisions involving the purchase and sale of a family property	1	2.63	2	5.26	35	92.11

Psychosocial social aspect / item	TD + D n (%)		N n (%)		TA+ A n (%)	
Women are able to hold positions of power in the community	1	2.63			37	97.37
Community authorities encourage the participation of women in boards of directors, rural funds or municipal positions.	3	7.89	3	7.89	32	84.21
I like the fact that women participate in the management of organizations					38	100
I can plan activities, contribute to the work at home and also participate in the political and social life of my community.	1	2.63	3	7.89	34	89.47

Note. TD= Strongly Disagree; D= Disagree; N = Neither Agree nor Disagree; TA = Strongly Agree; A= Agree.

Nine psychosocial aspects that influence the attitude towards the material dimension were identified: 1) self-fulfillment, 2) self-marginalization, 3) subordination, 4) patriarchal culture, 5) disintegration, 6) self-reliance, 7) inclusion, 8) gender equity, and 9) economic independence. The estimated frequency and percentage of women's responses for each statement related to each psychosocial aspect in the material dimension (Table 3).

Table 3
Frequency and percentage of psychosocial perception of the material dimension (n=38)

Psychosocial social aspect / item	TD + D n (%)		N n n (%)		TA+ A n (%)	
Personal realization						
I feel personal satisfaction in contributing money to my household.	1	2.63			37	97.37
I feel good about going out to work outside the home					38	100
I would like to work in activities that are not related to the home			1	2.63	37	97.37
Autargination						
A woman's responsibility is to always be at home	28	73.68	4	10.53	6	15.79
It feels good to stay at home and not go out to work	23	60.53	8	21.05	7	18.42
Patriarchal culture						
Do you consider that the father of the family is in charge of providing for the basic needs of his children?	12	31.58	12	31.58	14	36.84
I like my husband to be the one managing the family income.	28	73.68	5	13.16	5	13.16
Subordination						
My partner should always know where I invest the money I earn on my own	10	26.32	4	10.53	24	63.16
It is important to account for the spending of household money to my family.	6	15.79	3	7.89	29	76.32
My partner/parent is the sole provider in the household	22	57.89	2	5.26	14	36.84
I have always had the idea that men are the ones who should be in positions of power	34	89.47	2	5.26	2	5.26
Gender equity						

Psychosocial social aspect / item	TD + D n (%)		N n n (%)		TA+ A n (%)	
Women should have the same rights when it comes to work			2	5.26	36	94.74
Women make better decisions than men	1	2.63	16	42.11	21	55.26
Women and men in my locality have the same opportunities for work	16	42.11	1	2.63	21	55.26
Family disintegration						
The mother of the family is in charge of providing for the basic needs of her children	13	34.21	9	23.68	16	42.11
Economic independence						
I have money to meet my personal or self-interest needs (haircut and hair coloring, buy clothes, shoes, accessories, buy something I like, go to the doctor (gynecologist)	24	63.16	8	21.05	6	15.79
I am happy because I can satisfy personal needs and desires.	4	10.53	2	5.26	32	84.21
I would like to earn my own money.					38	100
Inclusion						
Women are included in community activities	1	2.63			37	97.37
Would like the municipal authorities to participate in community activities			2	5.26	36	94.74
Self-confidence						
I feel good when I make decisions for others for their well-being	9	23.68	1	2.63	28	73.68

Note. TD= Strongly Disagree; D= Disagree; N = Neither Agree nor Disagree; TA = Strongly Agree; A= Agree.

The psychosocial aspects in the personal dimension that can influence women's participation in entrepreneurship and community development initiatives are knowledge, self-confidence, integration, personal fulfillment, autonomy and self-marginalization (Figure 3). Indicators for psychosocial aspects with an orange hue are considered positive, while those with a green hue are considered negative.

In the context of this study, the main indicator that exerted a significant influence on women's participation at the personal level was intellectual knowledge, linked to the perception that a higher level of education leads to more informed decision making. The second most relevant indicator was self-confidence, evaluated by women's willingness to express their opinions. The third indicator, group integration, was related to the interest of most of the women in participating in community cultural events. The psychosocial aspect of personal fulfillment is associated with a woman's predisposition to conceive and complete new activities. Autonomy was linked to women's ability to freely express their opinions, take the initiative and decide without depending on others. The last indicator, self-marginalization, was constructed based on women's agreement with the idea that they can leave the house to attend meetings without devoting themselves exclusively to caring for the home and children.

Figure 3
Rating assigned for psychosocial aspects related to personal dimension
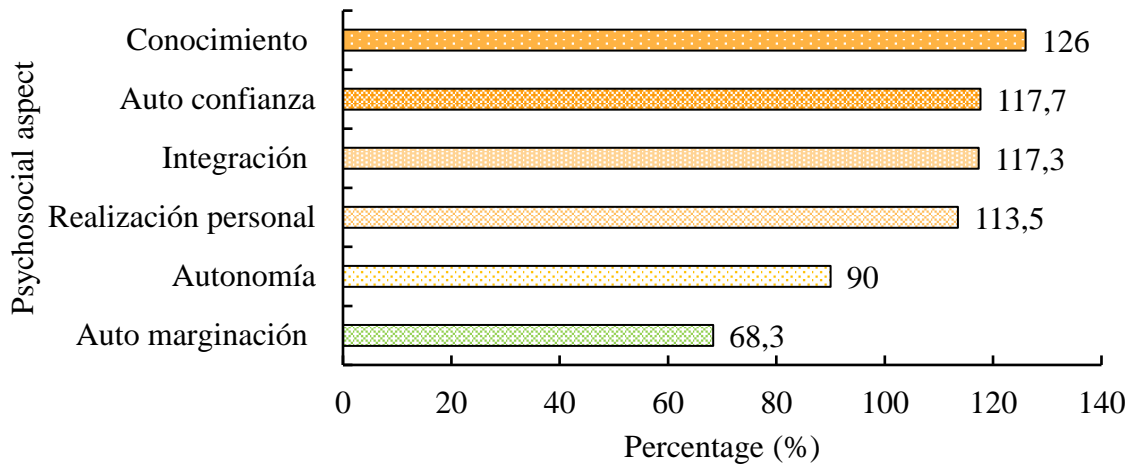
The psychosocial aspects in the social dimension that can influence women's participation in entrepreneurship and community development initiatives are gender equity, empowerment, group identity, valorization, subordination and patriarchal culture (Figure 4). Indicators linked to psychosocial aspects with a blue hue are considered positive and those with a green hue are considered negative.

The first four psychosocial aspects were evaluated as positive factors, with gender equity standing out within the context of this study as the most influential, as women expressed their agreement with the need to participate in community decision-making. Empowerment is linked to women's perception of their capacity to occupy leadership roles, being considered positive if they have been taken into account in boards of directors and rural cajas, in addition to their willingness to establish conversations with neighbors and actively participate in community activities, including teaching these practices to their children, evidencing the existence of a group identity. Next, it was identified that the next most influential psychosocial aspect was the valuing of women's work in the home. As for the negative indicators, subordination was observed, where women expressed their disagreement with the need to request permission from their partners to attend meetings, preferring to inform rather than request permission. The next negative indicator was patriarchal culture, in which women expressed their disagreement with the idea that men should always be the ones to make decisions in the home.

Figure 4

Rating assigned for psychosocial aspects related to the social dimension
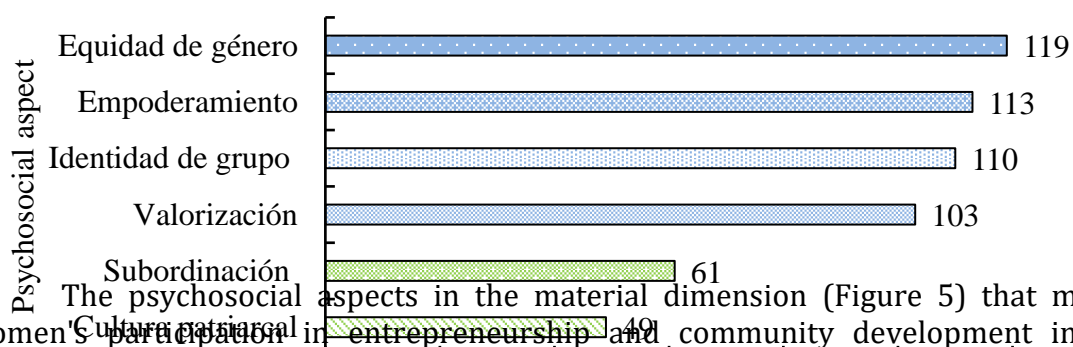
The psychosocial aspects in the material dimension (Figure 5) that may influence women's participation in entrepreneurship and community development initiatives are personal fulfillment, inclusion, economic independence, self-marginalization, self-confidence, patriarchal culture, gender equity, family disintegration and subordination. The indicators associated with psychosocial aspects with pink shades are considered positive and green shades negative.

Within the framework of this research, it was identified that the psychosocial aspect that exerts the greatest influence on the material condition is personal fulfillment. As a second

indicator, social inclusion was considered, which reflects women's sense of participation in various community activities. Economic independence emerged as another relevant aspect, since women perceive the generation of their own income as a personal achievement. Self-marginalization was evaluated negatively, as it hinders women's participation in entrepreneurship. The next indicator was self-confidence, constructed from the perception that women experience well-being when looking out for the well-being of others. The psychosocial aspect related to the patriarchal culture was associated with women's disagreement that their husbands should be the ones to manage the family income. The seventh indicator was gender equity; in this study, women considered that they should have the same rights as men when working. The last two indicators were classified as negative, the first being family disintegration, where women expressed their agreement in assuming the responsibility of providing for the basic needs of their children. The next indicator was subordination, which was constructed by considering the degree of women's agreement with the idea of being accountable for spending money to their husbands and families.

Figure 5
Value assigned for psychosocial aspects related to the material dimension
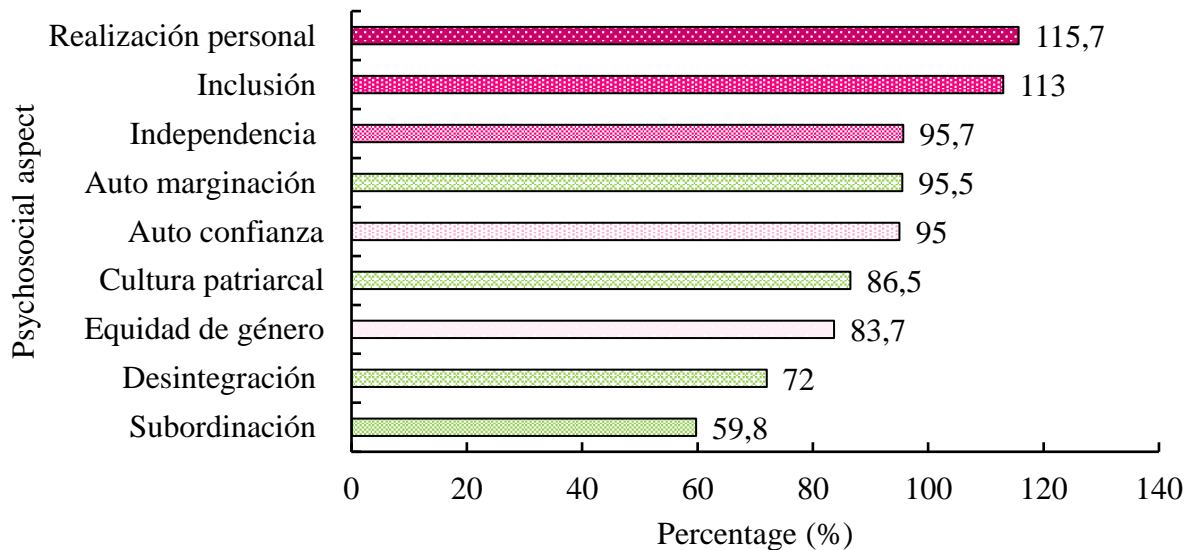
Discussion and conclusions

Finally, the conclusions of the article will be presented in a last section, followed by the main conclusions. Where appropriate, limitations and proposals for continuity will be included. Perceptions of the positive impacts of women's participation in new ventures highlight significant benefits that directly affect various aspects of life. First, an increase in household income not only brings a quantitative improvement, but also positively influences the quality of life of family members by providing additional resources to cover essential needs and facilitating access to development opportunities (Quintero y Velásquez, 2020). Likewise, participation in community activities strengthens women's presence in local administrative positions and boosts their decision-making capacity (Barbagelata, 2019; García-Solarte et al., 2017). This involvement not only contributes to individual women's empowerment, but also has the potential to positively influence gender dynamics and representation at the local level. The empowerment of women, highlighted by Zambrano et al. (2019) and Mejía et al. (2020)emerges as a crucial component because it provides knowledge that favors decision-making, effective conflict management and generates a multiplier effect by sharing this knowledge with other members, increasing awareness and improving communication and

women's leadership, creating an environment conducive to collective growth and development. Paz y Espinosa (2019) indicated that participation in community entrepreneurship is associated with a significant improvement in women's self-esteem. This psychological strengthening gives them the confidence to express their opinions and to trust their own judgment (Méndez y Valenzuela, 2019).

In contrast, perceptions of the negative impacts of women's participation in entrepreneurship reveal challenges and obstacles to overcome. The study by Barrera-Bassols (2006) noted that some men prevent women from engaging in activities outside the home, even going so far as to display physical violence. This reality underscores the need to address entrenched gender dynamics that limit women's autonomy in decision-making related to their participation in entrepreneurship. The importance of involving couples in information sessions on entrepreneurship projects as a preventive measure against possible discordance stands out as a crucial finding. This approach, pointed out by Paz y Espinosa (2019)the approach highlighted by the World Bank, highlights the need to generate awareness and understanding at the family level in order to foster more effective support for women's entrepreneurial aspirations. Cortez (2018) and Bustos y Villagrán (2019) highlighted the relevance of promoting family environments for the development of entrepreneurship, given that the influence of family support influences decision making and the growth of entrepreneurship. Cortez (2018) mentioned that 84.5% of the participants in his study considered that family support plays a fundamental role in conducting entrepreneurial businesses. At the same time, the identification of a double workday, ranging from domestic tasks to those related to entrepreneurship, highlights the work overload experienced by the women participants. As well as, childcare and household responsibilities are actions that hinder women's active participation in entrepreneurship (Barbagelata, 2019; Bustos y Villagrán, 2019). According to García (2016) these situations pose significant challenges in time management and reconciling responsibilities, which can negatively affect personal well-being as well as the effectiveness of business development. Therefore, it is proposed to design development programs that offer solutions for child care during training in order to eliminate barriers and facilitate the effective participation of women in entrepreneurial initiatives.

Perception and identification of psychosocial aspects related to the personal dimension: According to, Mejía et al. (2020) women who demonstrate creativity are more likely to be successful in the entrepreneurial arena. However, despite this potential, women have traditionally been conditioned to remain in domestic roles... (Barrera-Bassols, 2006). Activity that according to Sebastián et al. (1990) is under-recognized, and this has an impact on women's self-esteem. However, De Gorgue y Gálvez (2017) however, they mentioned that women develop a higher level of self-confidence when they are able to convey their ideas. According to Briseño et al. (2016) this is because women feel useful in helping others, which contributes to the strengthening of self-confidence. Manzanera et al. (2016); De Gorgue y Gálvez (2017) and Mejía et al. (2020) mentioned that work should be done on the development of social relationships, since this is a way to encourage women's participation in entrepreneurship, and develop skills to face challenges and failures. However, the inclusion of more anthropological, sociological and historical variables is considered necessary. If women lack self-confidence, there is a risk that they will not make their own independent decisions (Álvarez, 2015).

Sabater (2018) highlights that women tend to be highly responsible when facing financial obligations, which positions them as good managers and, therefore, competent entrepreneurs. Women recognize that the development projects strengthen their entrepreneurial and communication skills and that through their gender training they raise awareness of their rights (Arenas et al., 2011; Cortés et al., 2008; Paz y Espinosa, 2019).

Perception and identification of psychosocial aspects related to the social dimension: In ancient times, women felt obliged to ask their partners for permission to go out or participate in activities (Pérez, 2015). However, Salas et al. (2018) mentioned that when the current woman wishes to participate in community activities she does not approach it as a request for permission from her partner, but rather as an informed communication. This transformation in thinking reflects a change in gender perceptions and roles, highlighting the autonomy and independent decision-making of women today. Although, studies of Bautista y Juárez (2016); Covarrubias Feregrino (2016) and Lamiño Jaramillo et al. (2022) determined that women have little participation at the community level because their husbands do not allow them to leave their homes or because of a series of factors interrelated to stereotypes, lack of access to education, resources, cultural norms and domestic responsibilities. Massolo (2006) and García (2016) mentioned that it is necessary for rural women to have the opportunity to participate in decision making and to develop interactive skills at the social and cultural levels. However, Arenas et al. (2011) stressed that even when women have opportunities to participate in community activities, they are not exempt from being excluded from benefits or facing gender inequality.

Over time, women are taking over positions where community decision-making is required (Barrera-Bassols, 2006). Dakduk (2010) considered that this is due to the fact that, over time, the patriarchal culture has been reduced instead of the patriarchal culture, and that both women and men are capable of making good or bad decisions García-Solarte et al. (2017) mentioned that both women and men are capable of making good or bad decisions.

Perception and identification of psychosocial aspects related to the material dimension: Women who have experienced generating their own income outside the home feel personal satisfaction in contributing financially to the household (Cortés et al., 2008). Mainly because they perceive themselves as responsible for meeting their children's needs. However, Martínez y Vallejo (2017), Castillo y Merino (2018) and Jaramillo et al. (2022) mentioned that, this dynamic is more prevalent in households where family disintegration has occurred, either due to abandonment, lack of communication between partners or problems related to vices on the part of the man or head of household. Therefore, such scenarios cause women to feel pressured and take on the role of the father in the home (Cortés et al., 2008; Salazar, 2019). But, even in the absence of family disintegration, it is important to note that women continue to prioritize the welfare of other household members over their own... (Quintero y Velásquez, 2020). This is consistent with De Gorgue y Gálvez (2017) those who emphasized that women experience well-being when exerting influence on other people.

The conclusions derived from this study reveal that women identify negative psychosocial aspects associated with the family that negatively affect their participation in entrepreneurship. In this sense, the importance of involving the other members of the family to strengthen community enterprises is emphasized. This strategy can be effective in reducing problems such as family disintegration and the workload for women, while at the same time promoting women's empowerment through perceived family support. In addition, it is emphasized that community enterprises need to foster psychosocial aspects that promote inclusion, economic independence, January equity, empowerment and self-confidence. The relevance of having a thorough knowledge of the needs of the group of women to be benefited stands out as a critical component in the formulation of community projects. This perspective ensures the development of initiatives with a more significant impact on the personal, social and economic dimensions. In view of the above, it is proposed to carry out a study to identify the most appropriate alternatives to improve the psychosocial aspects and raise the level of women's empowerment in the implementation of community enterprises.

Acknowledgments

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Levels of loneliness and depressive symptomatology of health science students at PUCMM on the campus of Santiago de los caballeros
Niveles de soledad y sintomatología depresiva de los estudiantes de ciencias de la salud de PUCMM del campus de Santiago de los caballeros

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	ABSTRACT
Keywords: depressive symptoms, loneliness, college students, academic performance.	Depression and loneliness are two mental health conditions of which a significant increase has been observed in their appearance in university students, specifically those from the area of Health Sciences, because they are exposed to a great psychological burden due to academic demands, biological aspects and socio-economic factors, which affect their quality of life. This study aims to determine the levels of loneliness and depressive symptoms of PUCMM Health Sciences students from the Santiago de los Caballeros Campus. Methodology. A descriptive cross-sectional study was conducted from January to March 2023, using a stratified probabilistic sampling, with a total of 156 participants. Results. It was found that 18.6% showed moderate levels of loneliness, 77.6% moderately high and 3.8% high levels of loneliness. In relation to depression, 62.8% showed levels of minimal depressive symptoms, 14.1% mild depressive symptoms, 12.8% moderate depressive symptoms, and 10.3% severe depressive symptoms. In addition, a statistically significant relationship was found between the severity of depressive symptoms and socioeconomic status (p=0.014), loneliness levels and residence status (p=0.015) and the severity of depressive symptoms and academic index (p=0.047). Discussion. The results show that university students present high levels of depressive symptoms and loneliness, where the importance of creating prevention and treatment programs against these mental health conditions lies.
	RESUMEN
Palabras clave: síntomas depresivos, soledad, estudiantes universitarios, rendimiento académico.	La depresión y la soledad son dos condiciones de salud mental de las cuales se ha observado un aumento significativo en su aparición en estudiantes universitarios, específicamente aquellos provenientes del área de Ciencias de la Salud, debido a que se encuentran expuestos a una gran carga psicológica por las exigencias académicas, aspectos biológicos y factores socioeconómicos; que afectan su calidad de vida. Este estudio tiene como objetivo determinar los niveles de soledad y sintomatología

depresiva de los estudiantes de Ciencias de la Salud de PUCMM del Campus de Santiago de los Caballeros. Metodología. Se realizó un estudio descriptivo de corte transversal en el periodo de enero a marzo del 2023, utilizando un muestreo probabilístico estratificado, con un total de 156 participantes. Resultados. Se encontró que el 18.6% mostró niveles de soledad moderados, el 77.6% moderadamente alto y 3.8% niveles altos de soledad. En relación con la depresión, el 62.8% mostró niveles de sintomatología depresiva mínima, el 14.1% sintomatología depresiva leve, el 12.8% sintomatología depresiva moderada y el 10.3% sintomatología depresiva grave. Además, se encontró una relación estadísticamente significativa entre la severidad de la sintomatología depresiva y el estado socioeconómico (p=0.014), los niveles de soledad y el estado de residencia (p=0.015) y la severidad de sintomatología depresiva y el índice académico (p=0.047). Discusión. Los resultados encontrados mostraron que los estudiantes universitarios presentan altos niveles de sintomatología depresiva y soledad, donde radica la importancia de la creación de programas de prevención y tratamiento en contra a estas condiciones de salud mental.

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Introduction

The emotional state and the ability to relate to others are important pillars for the good psychosocial development of people. Mental health is a complex field that has gained increased attention in recent years due to the rise in cases of mental disorders and increased awareness on the part of society. Within these disorders, depression and loneliness rank as two of the major mental health indicators worldwide. According to data provided by the WHO in 2020, there are approximately more than 300 million cases of people suffering from depression (World Health Organization, 2023). Similarly, in a survey conducted by the National Bureau of Statistics, it was evidenced that 1 in 10 people claim to present symptoms of loneliness most of the time, between the age range of 16 to 24 years (Ortiz-Ospina E, 2020).

Depression and loneliness affect several aspects of the daily life of the people who suffer from it, as is the case of university students. This group of people is at high risk of suffering from depression and loneliness, mainly because they are exposed to a great psychological burden due to academic demands, biological aspects and socioeconomic factors; which influences their quality of life. Studies have shown that these two health conditions have resulted in decreased quality of life in both healthy and sick people (Hols, J. et al. 2019). The negative effects of these two conditions not only threaten psychological health, but also physical and socioeconomic well-being. Students with depressive symptoms tend to present complications such as risk of heart attack, emotional attachment, feelings of emptiness and sadness, difficulty falling asleep, fatigue, weight gain or loss, among others (Healthline, 2022). On the other hand, those who suffer from loneliness may present some complications such as high alcohol consumption, depression, insomnia, immune system weakness, and cardiovascular problems (Rico-Uribe, L et al. 2018). In addition, problems in interpersonal relationships and financial status may be witnessed.

Among university students, those belonging to the health sciences area are more frequently exposed to circumstances that put their mental health status at stake. Apart from common academic stressors, they face intense theoretical and practical classes with high levels of academic competitiveness and pressure, frequent evaluations, patient care, decision making regarding the health of others, a stressful clinical environment and sometimes may evidence death (Kılınç G, et al. 2019). Despite the fact that university students in the health sciences area are at high risk of presenting these mental conditions, there is insufficient research in the Dominican Republic that focuses on this population and their levels of loneliness and depressive symptomatology. In this way, the data obtained from this study can be used for the development of measures to prevent and address this health problem. Due to the importance and the negative impact it represents, this study was conducted to determine the levels of depressive symptomatology and loneliness in students of Health Sciences at the PUCMM of the Santiago de los Caballeros Campus. In addition, the research team seeks to relate these mental health indicators to sociodemographic characteristics, year of study, academic index and academic load. In this way, data can be collected to help develop therapeutic strategies and improve students' academic and personal performance.

Method

A descriptive cross-sectional study was conducted from January to March 2023, using stratified probability sampling. The research participants were selected from the different careers that make up the PUCMM Health Sciences at the Santiago de los

Caballeros Campus, such as Medicine, Nutrition and Dietetics, Stomatology and Physical Therapy during the aforementioned period, taking into account the various inclusion and exclusion criteria. A total of 259 students were sampled, of which 156 were those who participated in the study.

Study Variables

The variables used were depressive symptomatology and loneliness, these being the main variables in this study. Similarly, sociodemographic variables were used, such as: age, sex, marital status, home situation, socioeconomic status and career. Among the academic variables are the academic load and index.

Inclusion criteria

Among the inclusion criteria that were taken into account at the time of conducting this research were:

- Students belonging to the Health Sciences area who are enrolled from October 2022 to January 2023, since the sample used for this research is the one belonging to the Health Sciences department from that period of time.

- Students belonging to the area of Health Sciences from the third year to the last year of career, since those who are in pre-medical and internship will be excluded.

- Students who are 18 years of age or older must be of legal age to participate in this research.

- Students who sign the informed consent form, since participants must be informed about the entire process to be carried out throughout the research.

- Students who fill out more than 70% of the questionnaire, since this will provide more accurate data for the study

Exclusion criteria

- Among the exclusion criteria that were taken into account at the time of conducting the present investigation were:
- Students belonging to the area of Health Sciences who are in internship, since they are not part of the desired sample in the study.
- Students who live alone, as the levels of loneliness in these types of students will vary from those who live with others.
- Nursing students, because they are not part of the Health Sciences area.

Collection instrument and its validation in the research

The instrument used for this research is composed of 3 different sections. The first section is composed of six closed-ended questions prepared by the research team, with the purpose of evaluating the sociodemographic variables of the participants. The second section is composed of four closed questions that were created by the researchers to evaluate the academic variables of the participants. The third section is made up of 41 closed questions, 20 of which are part of the UCLA Loneliness Scale and the other 21 are part of the Beck Depression Inventory, where the main objective is to measure the levels of depressive symptomatology and loneliness in the participants of the study.

The UCLA Loneliness Scale consists of 20 questions to be self-completed by participants. The score obtained can vary between 20 and 80 points, where the higher the

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score, the greater the degree of loneliness. The Beck Depression Inventory can be scored between 0 and 63 points, the higher the score obtained, the higher the level of depressive symptomatology of the participant. If a score of 0 to 13 points is obtained, there is minimal depressive symptomatology. Similarly, if 14-19 points are obtained it is mild depressive symptomatology, if it is 20-28 it is known as moderate depressive symptomatology, and if it is 29-63 it is known as severe depressive symptomatology. Once the collection instrument had been validated by the Bioethics Committee of the Faculty of Health Sciences (COBE-FACS) of the Pontificia Universidad Católica Madre y Maestra, it was used in a pilot test. The study was preliminarily tested, where the feasibility of the study and the improvements to be made were checked, making the necessary corrections to improve the research design.

Data collection procedure

In order to obtain valid results in the research, it is essential to describe precisely the steps that must be carried out to collect the information. This is why the investigators of this study then presented this data collection plan, so that the study can be reproducible and free of possible biases. The first step was to propose the research proposal to the Bioethics Committee of the Faculty of Health Sciences (COBE-FACS), which evaluated the conduct of the research, taking into account compliance with ethical principles. Subsequently, in order to initiate this research, knowledge was obtained of the number of students in each school of the Faculty of Health Sciences, enrolled in the period from October to March 2023, whose information was provided by the dean of this faculty. For data collection, the relevant authorities of the PUCMM were contacted to provide the information and allow the researchers to send via institutional e-mail the informed consent and the survey that was used in the research. They were developed in a Google Forms. When the participants received this e-mail, the first thing they found when they opened the link was the informed consent, in which they were presented with the purpose of the study, the risks and benefits, and how the data obtained would be handled. Subsequently, the participant was asked if he/she understood what will be done in the research through a closed question, and then he/she was given the option to select whether or not to participate in this study. If the participant decides that he/she does not wish to participate, the form is automatically closed. On the other hand, if the participant decides to participate in the study, the form automatically opens the survey so that it can be completed.

The survey developed by the researchers is designed to be as clear and precise as possible so that the participant can fill it out satisfactorily. It consists of a total of 51 multiple-choice questions. Researchers do not require direct participation in filling out the questions since none of the questions involve physical measurement of the variables. If the participant had any questions, the researchers were available to respond electronically. It is estimated that the participant will take approximately 15-20 minutes to complete the survey. Once the survey is completed, the form automatically sends the information and closes, thus completing this process.

Data processing and analysis plan

Once the data collection was completed, the information obtained from Google Forms was downloaded. An exhaustive review of the information presented here was carried out to detect any errors or data that should be discarded when filling out the survey. Then, for their tabulation, the use of EXCEL 2017 was implemented and the statistical package SPSS (Statistical Package for Social Science) version 17.0 was used to analyze them.

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These data were reviewed to verify that there were no errors in the coding of the variables. Once this step was completed and verified, the analysis plan continued with a statistical inspection of the data to determine the levels of loneliness and depressive symptomatology of the Health Sciences students of PUCMM at the Santiago de los Caballeros campus, and to observe how these levels were related to sociodemographic and academic variables. Only qualitative variables (depression, loneliness, sex, age, marital status, residence status, socioeconomic status and career, academic load and index) are taken into account. First of all, it should be clarified that the data analysis took into account a confidence interval of 95%, a maximum permissible error of 5% and a value of p<0.05 as the limit for statistical significance. The analysis process was divided into two stages.

The first stage is based on the analysis of the descriptive statistics of the data. A univariate analysis was performed using absolute frequency and percentage for qualitative variables, while for quantitative variables the mean was used as a measure of central tendency and the standard deviation as a measure of dispersion. Subsequently, this descriptive analysis was presented through bar graphs and tables.

In the second phase of this analysis plan, bivariate analysis of the data was carried out in accordance with the objectives of the study. Here crosses were made between the variables, and the statistical tests chosen depend on the nature of these variables. The Chi-square test was used for the crossover between qualitative variables, while the Student's t-test was used for the crossover between qualitative and quantitative variables.

Ethical considerations
The information obtained from this research will remain strictly confidential and the questionnaire was applied anonymously, respecting those students who agreed to participate. It is necessary to inform that this research was reviewed by the Bioethics Committee of the Faculty of Health Sciences (COBE-FACS). Among the principles presented in the Belmont Report, which were respected by the researchers in this study are the following:

- Principle of beneficence because the objective of this research work is to create a benefit in the study population used. That is to say, to the students that make up the Health Sciences of the PUCMM that meet the proposed inclusion and exclusion criteria.
- Principle of non-maleficence by not inflicting any type of harm to the research participants, so that their physical and emotional well-being was preserved throughout the work.
- Principle of autonomy, since the privacy of the participants was maintained throughout the course of the research. Likewise, it was made known to them that they may be able to withdraw from the research at any time without any problem.
- Principle of justice, because all participants who met the inclusion and exclusion criteria were part of the research and received the same respectful treatment without any distinction. In addition, the students to participate are chosen randomly.
- In order to respect these principles, an informed consent form was used to explain to the participants everything concerning the research process in which they took part, since the objectives to be achieved and the manner in which it was carried out were detailed in detail.

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Results

Of the total sample of 259 students, a total of 156 respondents participated in the study. Of these, 76.9% were female and 23.1% were male. By age, 15.4% belong to the 18-19 age range, 41.7% to the 20-21 age range, 35.3% to the 22-23 age range, 7.1% to the 24- 25 age range, and 0.6% to the over 25 age category. Regarding marital status, 96.2% confirmed that they were single, 0.6% were married, 0.6% were in a common-law relationship, and 2.6% were in a dating relationship. By residence status, 14.7% stated that they live alone, 3.8% that they live with a partner, 71.8% that they live with family members, and 9.6% that they share their residence. Within the socioeconomic status, 3.2% confirmed that they have a high socioeconomic status, 87.2% that they have a moderate socioeconomic status and 9.6% a low socioeconomic status. In addition, 68 (43.6%) said they were studying medicine, 18 (11.5%) nutrition and dietetics, 56 (35.9%) stomatology, and 14 (9%) physical therapy.

As for the academic variables, it was found that according to the academic index 15.4% have an academic index within the range of 3.8-4; 27.6% are within the range of 3.7-3.5; 35.3% are within the range of 3.4-3.2 and 21.8% are within the range of less than 3. Within the academic load, according to the number of subjects studied, 6.4% stated that they are taking less than 3 subjects, 53.8% that they are taking 4 to 6 subjects, 35.3% that they are taking 7 to 10 subjects, and 4.5% that they are taking more than 10 subjects. Adding to this, according to the time dedicated to study 8.3% stated that they dedicate less than 20 hours of study to the university per week, 23.1% stated that they dedicate 20 hours per week, 32.1% that they dedicate 21 to 40 hours per week, 27.6% from 41 to 60 hours per week, and 9% more than 60 hours per week.

Table 1

Severity of loneliness among pucmm health sciences students at the santiago de los caballeros campus during the month of october 2022 to january 2023 (n=156)

Severity Level	Frequency	%
Mild loneliness	0	0%
Moderate loneliness	29	18.6%
Moderately high loneliness	121	77.6%
High loneliness	6	**3.8%**
Total	**156**	**100%**

Note. Loneliness severity was measured using the UCLA Loneliness Scale. UCLA= University of California at Los Angeles.

Out of a total of 156 respondents, 18.6% showed moderate levels of loneliness, 77.6% moderately high and 3.8% high levels of loneliness. No participants were shown to have high levels of loneliness.

Table 2

Severity of depressive symptomatology of pucmm health sciences students at the santiago de los caballeros campus during the month of october 2022 to january 2023 (n=156)

Severity Level	Frequency	%
Minimal	98	62.8%

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depressive symptomatology		
Mild depressive symptomatology	22	14.1%
Moderate depressive symptomatology	20	12.8%
Severe depressive symptomatology	16	10.3%
Total	**156**	**100%**

Note. The level of depression severity was measured using the Beck Depression Inventory.

Of a total of 156 respondents, 62.8% showed minimal depressive symptomatology levels, 14.1% mild depressive symptomatology, 12.8% moderate depressive symptomatology, and 10.3% severe depressive symptomatology.

Table 3

Loneliness severity and residency status of pucmm health sciences students at the santiago de los caballeros campus during the month of october 2022 to january 2023 (n=156)

	State of residence				
Level of loneliness	**Lives alone (%)**	**Lives with a partner (%)**	**Lives with family (%)**	**Share your residence (%)**	**Total (%)**
Slight	0	0	0	0	0
Moderate	17.4	66.7	15.2	26.7	18.6
Moderately high	82.6	33.3	81.3	60	77.6
High	0	0	3.6	13.3	3.8
Total (%)	100	100	100	100	100

Note. Value of p=0.015

On the part of the relationship of level of loneliness and residence status, it was found that the predominant level of loneliness within the categories of "lives alone", "lives with a family" and "shares residence" was the moderately high level of loneliness. On the other hand, in the "lives with a partner" category, the moderate level of loneliness predominated. Finally, by crossing the variables of loneliness levels with the state of residence using the Chi-square statistical test, a P value of less than 0.05 (P=0.015) was obtained, so that the variables are statistically significant, showing that the level of loneliness is related to the state of residence of the respondents.

Table 4

Severity of depressive symptomatology and socioeconomic status of pucmm health sciences students at the santiago de los caballeros campus during the month of october 2022 to january 2023 (n=156)

	Socioeconomic status			
Levels of depressive symptomatology	**High (%)**	**Moderate (%)**	**Low (%)**	**Total (%)**
Minimal	86.7	62.7	0	62.8
Slight	0	14.7	40	14.1
Moderate	0	14	20	12.8
Serious	13.3	8.8	40	10.3

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| Total (%) | 100 | 100 | 100 | 100 |

Note. Value of p=0.014

The predominant level of depressive symptomatology within the "high" and "moderate" socioeconomic status categories was the minimum level of depressive symptomatology with 86.7% and 62.7% respectively. On the other hand, in the "low" category was both the level of mild and severe depressive symptomatology with 40% each. Finally, by crossing the variables of levels of depressive symptomatology with socioeconomic status using the Chi-square statistical test, a P value greater than 0.05 (P=0.014) was obtained, so that the variables are statistically significant, showing that the level of depressive symptomatology is related to the socioeconomic status of the respondents.

Table 5

Severity of depressive symptomatology and academic index of pucmm health sciences students at the santiago de los caballeros campus during the month of october 2022 to january 2023 (n=156)

Levels of depressive symptomatology	Academic index based on 4.0				
	3.8-4.0 (%)	3.7-3.5 (%)	3.4-3.2 (%)	<3 (%)	Total (%)
Minimal	83.3	65.1	56.4	55.9	62.8
Slight	8.3	11.6	18.2	14.7	14.1
Moderate	0	4.7	20	20.6	12.8
Serious	8.3	18.6	5.5	8.8	10.3
Total (%)	100	100	100	100	100

Note. Value of p=0.047

The level of depressive symptomatology that predominates within the different academic index ranges was the minimum level of depressive symptomatology, with 62.8% of the cases. By crossing the variables of levels of loneliness with the academic index using the Chi-square statistical test, a P value of less than 0.05 (P=0.047) was obtained, so that the variables are statistically significant, showing that the level of depressive symptomatology is related to the academic index of the respondents.

Discussion and conclusions

The general objective of the research was to determine the levels of loneliness and depressive symptomatology of PUCMM Health Sciences students at the Santiago de los Caballeros Campus from January to March 2023. In addition, to evaluate the relationship between depression and loneliness with various sociodemographic and academic variables.

Within the levels of depressive symptomatology that were exposed by the students through the Beck Depression Inventory incorporated in the collection instrument, it was found that 62.8% of the participants showed levels of minimal depressive symptomatology, 12.8% moderate depressive symptomatology, and 10.3% severe depressive symptomatology. These results are in agreement with those obtained in a

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study by Shawahna et al. (2020), which showed that, of 268 respondents, more than 50% showed minimal, 14% moderate and 9.1% severe depressive symptomatology. Similarly, according to Azad et al. (2017) in their study, of the 150 students who were included in the analysis, mild depression was observed in 37.46%, moderate to severe depression in 14% of the students and 13.19% presented moderate anxiety. These results corroborate with those obtained, since they all confirm the effect of the high demands of the careers that make up the Health Sciences, which results in high psychological demands on students that lead to different degrees of depressive symptomatology.

In relation to the levels of loneliness that were exposed by the participants, it was revealed that 18.6% presented moderate levels of loneliness, 77.6% moderately high and 3.8% high levels of loneliness. No students showed mild levels of loneliness. These results can be corroborated by a study conducted by Diehl et al. (2018), where it was indicated that 32.4% felt moderately lonely and 3.2% severely lonely. Similarly, in research conducted by Baye Dagnew and Henok Dagne (2019), it was found that approximately half of the respondents showed considerable levels of loneliness, with a prevalence of 49.5%. These studies justify the results obtained in the present research, since students coming from Health Sciences are exposed to factors such as stress, academic demands, residence conditions, and socioeconomic situation that predispose them to develop a certain degree of loneliness.

With respect to residency status, it was shown that those students who claimed to live alone, with a relative or share a residence, showed moderately high levels of loneliness. However, those living with a partner indicated moderate levels. No participants with mild or high levels were shown. From the results obtained, there was evidence of a statistically significant relationship between residence status and loneliness of the respondents (P=0.015). Likewise, it was observed in the study conducted by Hysing et al. (2020), that among the important demographic determinants of loneliness are being female, being single and living alone. This justifies a large part of the data obtained, since careers such as those in the Health Sciences require a high percentage of commitment and sacrifice on the part of the students, who, at the same time, need a stable support network, since there is a high probability of developing high levels of loneliness, especially when the student is living alone.

According to the relationship of the levels of depressive symptomatology with the socioeconomic status of the participants, it was found that those with a high or moderate socioeconomic status showed minimal levels of depressive symptomatology. In contrast, those with low status indicated levels of both mild and severe depressive symptomatology. A statistically significant relationship was shown between both variables (P=0.014). Similarly, research by Carol Vidal, Whitney Brown, and Flavius R. (2018) showed that low socioeconomic status is considered a relevant risk factor for depression and should be considered in mental health counseling. This justifies the results obtained, since this group of people is at high risk of suffering from depression and loneliness, mainly because they are exposed to a number of factors that predispose them to develop high levels of depressive symptomatology, among which are biological aspects and socioeconomic factors, which not only cause negative effects on psychological health, but also on physical well-being.

Regarding the relationship between the academic index and the level of depressive symptomatology, it was found that the minimum level of depressive symptomatology predominated within the different ranges of the academic index, with 83.3% of those with minimal depressive symptomatology were in the 3.8-4.0 range; 65.1% in the 3.7 - 3.5 range; 56.4% in the 3.4 - 3.2 range and 55.9% in those with an index < 3. Therefore, it was

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found that the level of depressive symptomatology is related to the academic index of the respondents, these variables being statistically significant (p= 0.047). Similarly, Aljaber (2020) evidenced that the academic index indicated a higher rate of depression among students with a low academic index. This supports the idea that the academic index is related to the level of depressive symptomatology of these students, which can be explained by the large number of academic and psychosocial stressors to which these students are exposed.

The results obtained in the research show that the academic index of the student belonging to Health Sciences is related to their level of depressive symptomatology, however, there is no relationship with the academic load of the student and the level of depressive symptomatology. As both variables pertain to the academic setting, the discrepancy in these results may be due to the smaller sample size, in addition to the fact that different academic stressors that may influence academic load were not taken into account.

Regarding the strengths of the study, it is found that in the Dominican Republic there is not enough research that provides significant data on the levels of depression and loneliness in university students, mainly those of the Faculty of Health Sciences, so this study means a fundamental bibliographic support for universities to create functional strategies to address this health problem. In contrast, among the limitations of the present study, it should be noted that variables related to both depressive symptomatology and loneliness were not taken into account. In addition, it should be noted that there is little literature on the relationship between loneliness and university students related to the field of Health Sciences.

Through the Beck Depression Inventory, it was found that 62.8% of the PUCMM Health Sciences students at the Santiago de los Caballeros Campus showed levels of minimal depressive symptomatology, 12.8% showed moderate depressive symptomatology, and 10.3% showed severe depressive symptomatology. In addition, by means of the UCLA Loneliness Scale, it was found that 18.6% of PUCMM Health Sciences students at the Santiago de los Caballeros Campus had moderate levels of loneliness, 77.6% had moderately high levels of loneliness and 3.8% had high levels of loneliness. In addition, a relationship was found between severity of depressive symptomatology and socioeconomic status, levels of loneliness and state of residence, and severity of depressive symptomatology and academic index. It is suggested for the replication of this study the use of a validated instrument for the evaluation of academic load, also taking into account different academic stressors and a better representativeness of the sample. The data found in this research show that a large proportion of Health Sciences students suffer from depression and loneliness, which is related to several sociodemographic and academic variables. For this reason, it is recommended in the replication of this study to use a validated instrument for the evaluation of academic load, also taking into account different academic stressors, so that the results obtained are more concise and better representative of the reality of the respondent's academic life. Similarly, it should be taken into account that there are variables not evaluated in the study that may predispose one of the respondents to suffer from high levels of depressive symptomatology or loneliness. A better representativeness of the sample is recommended, since it was originally planned that, of the total number of respondents, 74% would be from Medicine, 5.7% from Nutrition and Dietetics, 13.8% from Stomatology and 6.3% from Physical Therapy. On the contrary, the research showed that 43.6% of the respondents were from Medicine, 11.5% from Nutrition and Dietetics, 35.9% from Stomatology, and 9% from Physical Therapy. The data found in this research show that a large proportion of Health Sciences

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students suffer from depression and loneliness, which is related to several sociodemographic and academic variables. For this reason, it is recommended to call the attention of the academic authorities to detect these warning signs in time to be able to intervene in a timely manner and create strategies so that the student feels free to go to the psychology or counseling department to address these mental health problems. It is advisable to promote university extracurricular activities that are more affordable and adapt to the schedule of different students, so that they can create healthy social relationships and release academic stress.

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Perception of parents and children regarding parenting styles and their relationship with the meaning of life in the City of San Francisco de Campeche.

Percepción de padres e hijos respecto a los estilos de crianza y su relación con el sentido de vida en la Ciudad de San Francisco de Campeche

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	ABSTRACT
	The objective was to determine the relationship between the perception of parents and children regarding parenting styles and the way in which it is manifested in the meaning of life of adolescents in the city of San Francisco de Campeche. It is a research with a quantitative approach, correlational scope and a non-experimental cross-sectional design. The sample was 76 adolescents between 12-18 years of age and their respective parents, in 10 neighborhoods of the city of San Francisco de Campeche, Campeche, Mexico. The Purpose In Life Test (PIL) and the Parenting Styles and Dimensions Questionnaire (PSDQ) were used, as well as the Parenting Styles and Dimensions Questionnaire (PSDQ) adapted for children. Data analysis was carried out using descriptive statistics and non-parametric hypothesis testing. The results indicate that the meaning of life of adolescents is "indefinite" and that it is the democratic dimension that predominates. It was found that there is a relationship between the perception of the parenting styles of parents and children with respect to the meaning of life. Young people with a democratic parenting style present a better sense of life compared to young people with a permissive style; however, the majority of

young people find themselves with a lack of definition of purpose and meaning in life, thus concluding an association between the perception of parents and children regarding parenting styles, as well as a relationship between parenting styles.

RESUMEN

Palabras clave:
estilos de crianza, Estilo Democrático, Estilo Permisivo, Estilo Autoritario, sentido de vida.

El objetivo fue determinar la relación entre la percepción de padres e hijos respecto a los estilos de crianza y la manera en cómo se manifiesta en el sentido de vida de los adolescentes de la ciudad de San Francisco de Campeche. Es una investigación con un enfoque cuantitativo, alcance correlacional y un diseño no experimental de corte transversal. La muestra fue de 76 adolescentes de entre 12-18 años de edad y sus respectivos padres, en 10 colonias de la ciudad de San Francisco de Campeche, Campeche, México. Se utilizó el test Purpose In Life Test (PIL) y el Cuestionario Parenting Styles and Dimensions Questionnaire (PSDQ), así como el Cuestionario Parenting Styles and Dimensions Questionnaire (PSDQ) adaptado para hijos. El análisis de los datos fue realizado mediante estadística descriptiva y pruebas de hipótesis no paramétricas. Los resultados indican que el sentido de vida de los adolescentes se encuentra en "indefinido" y que es la dimensión democrática la que predomina. Se encontró que existe una relación entre la percepción de los estilos de crianza de padres e hijos respecto al sentido de vida. Los jóvenes con estilo de crianza democrático presentan un sentido de vida mejor en comparación con los jóvenes con estilo permisivo, sin embargo, la mayoría de los jóvenes se encuentran con una indefinición de propósito y significado de vida, concluyendo así una asociación entre la percepción de los padres e hijos ante los estilos parentales, así como una relación entre los estilos de crianza.

Introduction

It includes the presentation of the paper and the analysis of the literature on the subject, with special emphasis on previous research that justifies the study and that will be contrasted in the discussion of the results.

All text is in 12-point Cambria font, single-spaced and with no spacing between paragraphs. As mentioned by Velasquez (2020)socialization has moved human societies since primordial times, being the key to human evolution due to its imperative role in the adaptation to the environment, survival, creation of means of solution, ideas of resources, etc. The person is a being in relationship, so that while growing, he/she acquires different learning processes that are translated into social participation and the establishment of relationships (García & Peraltilla, 2019).

Socialization arises from the unity of the family, which is considered the nucleus of the basis of society. In this social group, bonds that have been characteristic in the course of time and history are strengthened and its main responsibility is to provide education and training to its members, seeking the development of their potential, as well as fulfilling an affective function linked to self-esteem, sense of belonging and emotional intelligence (Díaz et al., 2020) all this is achieved through various methods called parenting styles (Velasquez, 2020).

Parenting styles encompass different ways, behaviors and attitudes that fathers, mothers or guardians use in families to guide, educate and train their sons and daughters, and are relevant because they are closely related to emotional, affective, social and academic environments (Vega Ojeda, 2020) there is even evidence that relates parenting styles to relevant psychological variables such as anxiety and depression (Aguilar-Yamuza et al., 2019) and to the presence or absence of violent behavior, substance abuse or delinquency in adult life (Rodríguez-Villamizar & Amaya-Castellanos, 2019). These are practical schemes that act as educational guidelines for basic dimensions that, when mixed together, generate different types of parental education (Rojas, 2020).

With respect to parenting styles, two models are mostly used, which have led to the construction of measurement instruments for research or, also, as support for psychological practice in clinical and even social settings. Firstly, the one derived from the research of Raskin, Boothe, Reating and Schulterbrandt, and the one carried out by Jacobson, Fasman and Dimascio (1971) and those carried out by Jacobson, Fasman and Dimascio (1975). This first model focuses on the memories that adults have about the parenting practices in their family during childhood; it allows us to understand parenting styles in fifteen subscales that in turn can be grouped into four general factors. In order to provide organized information, a table showing this classification is presented below:

Table 1

Classification of factors and subscales of the first model

Factor	Subescala
Controlador, orientado al desempeño y generados de culpa.	Abuso Privación Castigo Generación de culpa Orientado al desempeño
Bipolaridad de aceptación vs rechazo	Rechazo Inespecífico
Favorecedor de amistades y de apoyo.	Estimulante Vergüenza Tolerante Afectivo Apoyo a las amistades Apoyo a la persona
Sobreprotector (teóricamente exclusivo de las madres)	Sobreprotector Involucramiento excesivo

Despite the diversity and depth in factors and subscales of the first model, the orientation to the past and the fact that it was built based on research conducted on patients with psychopathologies such as clinical depression, makes it not very viable to guide the course of this research given the differences in the context of the sample, including the place of origin, since this proposal is of European origin.

On the other hand, the second model arises mainly from Baumrind's research in the Americas, specifically in the United States (1991) on the American continent, specifically in the United States. As mentioned by García and Peraltilla (2019)baumrind's conceptualization establishes that the socialization process that takes place within the social group that is the family ends up influencing the development of various competencies of children and adolescents since it involves the teaching and learning of different forms of behavior, values and belief systems that allow and facilitate the integration and interaction in a social context; in such a way that the socialization of a child and/or adolescent is expressed in the style that parents will predominantly use in the upbringing of their children (Musitu & García, F., 2004).

As Tenempaguay-Solís and Martínez-Yacelga state (2021) this model establishes its classification based on the degree of behavioral control, vigilance and affective expression that fathers, mothers and guardians maintain with their children, offering a system of factors grouped as follows:

1. **Democratic style:** characterized by parents with a flexible and listening attitude towards their children's needs. Presents a high affective response combined with high control, prioritizing the acceptance of children and seeking their autonomy (García & Peraltilla, 2019). It presupposes adequate family communication in which fathers and mothers are concerned about the emotional and affective stability of their children, supervise their behavior and only appeal to authority in case of disobedience of rules, which are co-constructed together with all members of the family (Tenempaguay-Solís & Martínez-Yacelga, 2021).

2. **Authoritarian style:** characterized by inflexible, controlling and demanding fathers and mothers who are not very affectionate (Tenempaguay-Solís & Martínez-Yacelga, 2021)in this style, the aim is to mold and control behavior based on absolute, rigid criteria, based entirely on authority; obedience is prioritized using punishments that limit autonomy when behavior is not consistent with the ideas of the guardians (García & Peraltilla, 2019).

3. **Permissive style:** in this style, fathers and mothers are usually very affectionate but no limits are set; therefore, it is likely that infants have difficulties to integrate successfully into other social groups (Tenempaguay-Solís & Martínez-Yacelga, 2021)the rules used lack consistency; parenting is not oriented to molding behavior; instead, it seeks to fulfill the children's desires and avoid their suffering; manipulation is often used (García & Peraltilla, 2019).

The different parenting styles of this model are shown below in an organized manner with their main characteristics, adding those which, according to Torío, Peña and Rodríguez, are the following (Citados en Pinta et al., 2019) are the main educational consequences for children:

Table 2

Classification of parenting styles of the second model

Parenting styles	Parental behavioral traits	Educational consequences on sons and daughters
Democratic	• Manifest affection. • Sensitivity to the needs of the child. • Explanations. • Promotion of desirable behaviors. • Inductive discipline. • Promotion of exchange and open communication. • Warmth and democratic climate.	• Social competence. • Self-control. • Motivation. • Initiative. • Autonomous morality. • High self-esteem. • Spontaneity. • Responsibility. • Prosociability inside and outside the home. • Decrease in the frequency of conflicts with parents.
Authoritarian	• Thorough and rigid standards. • Frequent punishments. • One-way communication. • Assertion of power.	• Low self-esteem and self-confidence. • Low personal autonomy and creativity. • Low social competence. • Heteronomous morality.
Permissive	• No emotional involvement. • Resignation in the educational task. • Low motivation and effort capacity. • Immaturity.	• Low social competence. • Low impulse control and aggressiveness. • Low motivation.
Source: Adapted from Pinta et. al, 2019		

On the other hand, the meaning of life is related to the purpose or meaning that a person gives to his or her life at different stages of development (Jiménez-Segura, 2021)it is the conception that a person has and that allows him/her to find meaning in his/her existence (Zamudio Flores, 2021). In the words of Frankl (Citado en Zelaya Guardado, 2023)the author of this concept, the meaning of life consists of the human being himself realizing his essence, that is to say, seeking and finding the purpose or purposes that guide his life and that endow his existence with meaning for himself.

Although the meaning of life is a concept that might seem more philosophical than psychological, it has been related through research to mental health; authors such as Zelaya (2023) have shown a relationship between both variables, affirming that people who have a greater sense of life tend to have less mental illness. It has even been stated that enriching a

person's sense of life favors the development of adequate mental health (Zamudio Flores, 2021).

Costanza et al (2019) conducted a meta-analysis on sense of life and suicidal behavior, finding that sense of life is a determinant factor in the development of resilience; the analysis also revealed that sense of life functions as a protective factor against suicidal ideation and other psychological conditions. This study is based on the importance of studying any variable associated with integral well-being and mental health.

Method

Research design

This study has a quantitative approach due to the use of statistics for data analysis, the design is non-experimental, cross-sectional, with a correlational scope through which it is intended to investigate the relationship between parenting styles and the sense of life in adolescents, from the perspective of parents and children.

Participants

The sample is made up of 76 adolescents between 12 and 18 years of age, as well as their respective fathers, mothers or guardians, totaling 152 people. This sample was a simple non-probabilistic sample. The distribution of the sample was as follows: of the 76 adolescents, 53.9% were female while 46.1% were male; with respect to their schooling, 56.6% attended high school, 38.2% were in secondary school, and the remaining 5.2% were divided between those in higher education (2.6%) and those with no schooling (3.6%).

On the other hand, of the fathers, mothers or guardians, 81.6% were women and only 18.4% were men. 35.5% have completed high school, 39.9% have completed secondary school, 11.8% have a bachelor's degree, 9.2% have completed elementary school, 5.3% have a technical career, 1.3% have postgraduate studies, while 3.9% have no studies.

In order to be included in the study, the following criteria were established: that they would agree to participate (informed consent) and that they reside in the city of San Francisco de Campeche.

Results

For data collection, the PIL (Purpose In Life) test was used to measure the adolescents' sense of life; this instrument has 20 questions on a seven-point Guttman scale. The reliability analysis of the PIL reached a coefficient of 0.89. Similarly, the Parenting Styles and Dimensions Questionnaire (PSDQ) was administered to the adolescents in the version for sons and daughters, consisting of 62 items on a five-point Likert-type scale. For fathers, mothers or guardians, the PArenting Styles and Dimensions Questionnaire (PSDQ) was applied in the same way, but in the parents' version.

The PSDQ in both versions has the objective of determining has three dimensions: 1. Democratic or authoritative; 2. Authoritarian and 3. Permissive, so independent of the general reliability analysis, a reliability analysis was performed for each dimension, obtaining the following results:

Table 3

Reliability of the factors of the PSDQ questionnaire

Dimension	Reliability coefficient
Democratic	0.88

	Authoritarian	0.78
	Permissive	0.67

Regarding data analysis, descriptive statistics were used, specifically statistics such as the mean; on the other hand, derived from the normality analysis ($p<0.05$), it was determined that the sample did not fit the normal distribution, so the use of non-parametric tests such as Chi-square and Spearman's Rho was chosen.

Procedure

Data collection was carried out at the participants' homes, with prior informed consent. All the data collected in the tests were entered into a database of the SPSS program, where by applying various procedures for obtaining data, percentages, frequencies and means were obtained, in addition to the use of the Spearman square chi-square and Spearman.

For the scoring and interpretation of the Purpose In Life Test (PIL) a maximum total of 140 points was taken into account, we must consider that those who obtain scores below 90 would be in a state of existential emptiness. On the other hand, those who score between 90 and 105 show a lack of definition with respect to the meaning of life. And, finally, those who exceed 105 points would have a clear presence of goals and meaning in life.

As for the interpretation of the Parenting Styles and Dimensions Questionnaire (PSDQ), scores were obtained from the factors to later add up a total score, which was then converted into percentiles to determine the predominant parenting style.

Ethical considerations

All participants gave informed consent for inclusion before participating in the study.

All procedures followed were in accordance with the ethical norms of the committee responsible for human experimentation of the Autonomous University of Campeche, Mexico; the national code of ethics for psychological research, national and local health law, and with the Declaration of Helsinki of 1975, revised in 2000. Informed consent was obtained from all subjects to be included in the study.

Results

Based on the analysis of the data collected, the following results are presented.

Table 4

Descriptive statistics of the PIL sense of life instrument scores

	N	Minimum	Maximum	Media	Desv. Deviation
Sense of life	76	74.00	136.00	106.4605	13.62296

The mean *Mean Meaning of Life* score is equivalent to a score of 106.46, which is placed in the category of *indefiniteness of purpose and meaning of life*. A deviation of 13.62296 is shown, with a minimum range of 74 and a maximum of 136.

Table 5

Frequencies of sense of life levels

	Frequency	Percentage	Valid percentage	Cumulative percentage
Lack of sense	10	13.2	13.2	13.2
Indefinition of meaning	43	56.6	56.6	69.7
Presence of meaning	23	30.3	30.3	100.0

The data obtained from the PIL test indicate that the majority of the population (56.6%) is in *indefinition of meaning*, 30.3% in *presence of* meaning and only 13.2% in *lack of meaning.* Although the percentage of the population with a lack of meaning is lower compared to the other categories, it is still relevant that more than 10% of the sample seems to have no defined meaning in life.

Table 6

Predominant dimension of the guardian and PIL Category in which the child is located

		PIL category in which the responding child is located			
		Lack of sense	Indefinition of meaning	Presence of meaning	Total
Predominant parenting style of the guardian	Count	3	21	16	40
	Democratic	7.5%	52.5%	40.0%	100%
	Count	5	3	6	14
	Authoritarian	37.5%	42.9%	21.4%	100%
	Count	2	16	4	22
	Permissive	9.1%	72.7%	18.2%	100.0%

Table 6 shows that those adolescents who fall into the *lack of meaning* category mostly have fathers, mothers or guardians with an authoritarian parenting style (37.5%); *on*the other hand, those who fall into the category of *lack of meaning* (72.7%) tend to have been raised in permissive environments, while adolescents with a present and defined meaning of life come mostly from *democratic* environments (40%).

Table 7

Pearson's Chi-square

	Value	Gl	Asymptotic significance (bilateral).
Pearson's chi-square	10.936	4	.027

The Chi-square analysis revealed a significant relationship ($p < 0.05$) between the parenting style of fathers, mothers or guardians and the presence, lack of definition or absence of meaning in life, a result that highlights the importance of parenting environments and styles in adolescents.

Table 8

Predominant dimension of the guardian and predominant dimension perceived by the child

		Predominant dimension of the adolescent			
		Democratic	Authoritarian	Permissive	Total
Predominant parenting style of the guardian	Count Democratic	24 60%	7 17.5%	9 22.5%	40 100%
	Count Authoritarian	3 21.4%	7 50.0%	4 28.6%	14 100.0%
	Count Permissive	4 18.2%	15 68.2%	3 13.6%	22 100.0%

Table 8 shows that the democratic dimension exercised by the father has the highest score with a coincidence of 24 subjects who perceive the democratic parenting style in the same way, equivalent to 60%; on the other hand, within the authoritarian dimension exercised by the father, there is a coincidence of 7 subjects who perceive the authoritarian parenting style in the same way, equivalent to 50%; finally, the permissive dimension exercised by the father obtains a score of 68.2%, corresponding to 15 subjects who perceive an authoritarian parenting style.

Table 9

Pearson's Chi-Square Test

	Value	Gl	Asymptotic significance (bilateral).
Pearson's chi-square	18.838	4	.001

A bilateral significance of. 001 that at a significance level of 0.05, it is concluded that the association between the variables of predominant dimension of the tutor and predominant dimension perceived by the child is statistically significant.

Table 10

Child's PIL score and parenting style and dimension category

		Sens e of life	Democrati c	Authorit arian	Permis sive
Sense of life	R	1.0 00	.272*		
	P		.017		
Democrati c	R	.27 2*	1.000	-.212**	
	P	.01 7		.009	
Authoritar ian	R		-.212**	1.000	.674**
	P		.009		.000
Permissiv e	R			.674**	1.000
	P			.000	

Table 10 shows that there is a significant correlation between the sense of life measured through the PIL and the democratic parenting style (p<0.05), this relationship is positive, so that in the presence of democratic parenting styles there is a greater sense of life.

Discussion and conclusions

Finally, the conclusions of the article will be presented in a last section, followed by the main conclusions. Where appropriate, limitations and proposals for continuity will be included. The results of the study revealed a predominance of indefiniteness of meaning in adolescents, a predominance that amounted to more than 50% of the total sample; these results are in agreement with the study conducted by Pérez et al. (Pérez et al., 2021) who report average levels of sense of life in the adolescent population; likewise, Sevilla-Santo et al. (2021) who conducted a study in 12 high schools in the state of Yucatán, Mexico (which borders the state from which the sample of the present study is taken) found in all schools average levels of sense of life or, as they call it in their study, uncertainty in the sense of life. On the other hand, studies conducted during the pandemic, such as that of Vergara et al. (2021) found in university population levels of sense of life that tend more towards the fullness of meaning and inner fulfillment, De Castro and Gonzalez (2017) state that what ultimately defines the human being is the sense to which they guide their intentions, actions and perceptions; from the relationship established with the environment and with themselves; therefore, the elevated levels of sense of life reported by Vergara et al (2021) may be due precisely to the context of the pandemic, a context that led to spaces for introspection and the possibility of performing activities that previously could not be performed due to the various activities of daily life.

There seems to be a tendency towards the predominance of the democratic parenting style in the research conducted in the Latino population; in the present study it was found that the style with the highest frequency was precisely the democratic parenting style, coinciding with research such as that conducted by Pinta et al. (2019) in Ecuador, a study with which the order of frequency of each style coincides, with democratic predominating, followed by permissive and ending with authoritarian; it also agrees with the study by Arias and Cáceres (2021) in Peru and Padrós (2020) as well as Apodaca et al. (2022) in Mexico.

One of the main findings was the relationship between the democratic parenting style and the sense of life, this parenting style is characterized by a high affective response (García & Peraltilla, 2019) combined with good family communication and a concern for emotional

stability (Tenempaguay-Solís & Martínez-Yacelga, 2021); although there are no studies that directly relate parenting styles with the sense of life, Córdova et al. (2022) were able to associate parenting behaviors that combine affection and demand (characteristics of the democratic style) with greater resilience and quality of life in children; similarly, Borja (2020) associated the democratic parenting style with better stress coping strategies; while Pinta et al. (2019) report a greater development of emotional competencies in children who are immersed in families where the democratic style predominates. As Vega (2020) mentions, parenting style is closely related to emotional, affective, social and even academic areas.

We conclude that there is a statistically significant relationship between parenting styles and sense of life, with *democratic* parenting being mainly related to higher levels of sense of life in young people.

However, in spite of the predominance of democratic styles, the reality is that most young people are located at levels of meaning in life that categorize them as *undefined* or *lacking in meaning*.

The relevance of parenting in the integral health of young people is highlighted.

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Evaluation of a Strategy Based on Pedagogical Mediation for the Development of Metacomponential Skills
Evaluación de una Estrategia Basada en la Mediación Pedagógica para el Desarrollo de Habilidades Metacomponenciales

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	ABSTRACT
Keywords: metacomponential and metacognitive ability, analytical intelligence, practical intelligence.	El artículo parte de un estudio cuasiexperimental cuyo objetivo es evaluar los efectos de una estrategia basada en la mediación pedagógica para el desarrollo de la metacognición de los estudiantes. El alcance de los objetivos se apoya en el método cuasiexperimental con observación antes y después de la aplicación de la estrategia. La muestra probabilística está compuesta por 176 estudiantes de educación secundaria dividida en dos grupos: grupo experimental (88 sujetos) y grupo de control (88 sujetos). Se lleva a cabo el diagnóstico previo con la aplicación del Inventario de Habilidades Metacognitivas y la Batería Aurora. Para el procesamiento de datos se aplica la Estadística Radial y la Prueba t de Student para muestras independientes y muestras emparejadas. La estrategia de intervención se desarrolla durante cuatro meses en dos sesiones de aplicación de la estrategia por semana. Los resultados que arroja la observación antes (OA) indican la no existencia de diferencias significativas entre el Grupo de Control y el Grupo Experimental. Ambos grupos arrojan resultados similares. Una vez aplicado el Inventario de Habilidades Metacognitivas, los resultados evidencian diferencias significativas entre el grupo experimental y el de control; en consecuencia, se acepta la hipótesis alternativa y se rechaza la hipótesis nula. Se concluye la efectividad de la estrategia de intervención basada en la pedagogía de la mediación en el despliegue de las habilidades metacognitivas que son fundamentales en la resolución de los problemas académicos, teniendo en cuenta que la mediación se presenta como pedagogía emergente y fundamental en el aprendizaje y desarrollo cognitivo de los estudiantes.
	RESUMEN
Palabras clave:	The article is based on a quasi-experimental study that aims to evaluate the effects of a strategy based on pedagogical mediation for the development of students' metacognition. The scope of the objectives is based on the quasi-experimental method with observation before and

habilidad metacomponencial y metacognitiva, inteligencia analítica, inteligencia práctica.	after the application of the strategy. The probabilistic sample is composed of 176 secondary school students divided into two groups: experimental group (88 subjects) and control group (88 subjects). Pre-diagnosis was carried out with the application of the Metacognitive Skills Inventory and the *Aurora* Battery. For data processing, the Radial Statistics and Student's t-test for independent samples and for paired samples are applied. The intervention strategy is developed during four months based on two sessions of strategy application per week. The results of the observation before (OA) indicate no significant differences between the Control Group and the Experimental Group. Both groups show similar results. However, once the Metacognitive Skills Inventory is applied, the results show significant differences between the experimental and control groups; consequently, the alternative hypothesis is accepted and the null hypothesis is rejected.

Introduction

Colombian students have difficulties at the level of reading comprehension, in understanding mathematics and science mostly, which suggests that students present difficulties in developing linguistic and cognitive skills that are required to advance in the cognitive processing of learning objects; in the capacity of analysis, in the resolution of tasks as well as in the organization of information, since metacognitive skills are not adequately applied in the processing of tasks and academic work. Therefore, learning goals are not achieved, (Garcia, 2018). This problem is related to the persistence in the application of traditional pedagogical models that do not stimulate the deployment of cognitive processes that lead to the consolidation of meaningful and autonomous learning, which are fundamental in the resolution of academic problems. The viable and adaptive construction of academic content is not carried out with the ideal pedagogical processing; a process that makes it difficult for students to achieve their learning goals (Puma, 2020).

In the district of Barranquilla, the geographical area where the research was carried out, a modernization of schools has taken place, characterized by the construction of mega schools and the academic organization of intelligent schools. However, difficulties persist in the pedagogical aspect, since teachers maintain the traditional approach to education, are not updated in the application of pedagogical models, nor in the design of strategies that favor the development of critical thinking in students. All this is due to the absence of interactive and didactic processes that are motivating, questioning and dialogic, so necessary for the development of students' cognitive skills and abilities.

Theoretical references

The theoretical references in this research are based on three major blocks, which are: the neurobiological theory of brain plasticity, the theory of successful intelligence and the theory of mediation in education. In the first block, concepts, principles and theorizations related to neuronal plasticity are established, taking into account its importance for the evolutionary modifiability that leads to the development of new cognitive skills and abilities, within the ontic chronology of the learning subjects. Brain plasticity turns out to be highly dynamic during childhood and adolescence since it especially affects memory and learning processes. This indicates that, trainings or strategies oriented to the mediation of the development of metacomponential skills, are pedagogically relevant at these evolutionary ages to achieve highly functional cognitive processes during schooling, (Sierra & León, 2019).

The second theoretical block, referring to the theory and practice of successful intelligence, is based on Sternberg, who sustains the evolutionary and functional importance of analytical intelligence and practical intelligence. Both intelligences are functionally supported by the metacomponential or metacognitive processes of individuals. The concept of metacognition was originally conceived by Flavell as the ability to reflect on one's own learning processes, and also refers to the deployment and development of skills, control knowledge and self-regulation of cognitive and mental processes that significantly manage learning (Benavides 2020).

The third theoretical block supports the importance of pedagogical mediation, taking into account that it constitutes a pedagogical and sociocultural event, which allows the teacher to apply his pedagogical competence to favor in students the deployment of skills, abilities and processes that functionally represent advances in their human and intellectual development. Mediation is theoretically supported by Vygotsky's proposed constructivism, Louis Not's dialogical pedagogy and Feuerstein's theory of structural cognitive modifiability, (Garcia, 2018).

Pedagogical Mediation

The objective of mediation is oriented to deploy human development, so that the subject in the learning process reaches not only the levels of knowledge construction, but also the deployment of skills, abilities and competencies of the art under study. For this reason, didactics is directed to the achievement of the socio-cognitive domains of the learning process. In the same way, it is necessary to understand that the mediated learning experience is structured from the didactic interactivity that constitutes an intentional, socio-cognitive and organized dialogic relationship, allowing the student to build knowledge from socialized learning experiences and the deployment of potentialities.

Pedagogical mediation is based on the theoretical assumptions of Vygotsky (1978), from his concept of the zone of proximal development, which is conceptualized as the evolutionary distance that exists in the cognitive performance of the learner and is determined by his chronological age and performance achieved with the mediation of a competent interlocutor. Mediation favors the deployment of the subject's human development during the learning process, so that he/she achieves the levels of knowledge construction and deployment of abilities, skills and competencies of the art under study, as well as the socio-cognitive mastery of his/her learning process.

The process takes place because mediation builds a pedagogical competence that leads to the deployment of complex functional processes that generate an operative framework of higher psychological processes. In reference to this, Vygotsky, (1978), states that "The metacognitive or metacomponential functioning is the manifestation of intelligence achieved from the transformation of the operational processes of thought; in such a way that the student reaches functional levels of organization, planning, evaluation and metacognition that is transferred in the adoption of heuristic processes and the resolution of processes" pg. 95.

Language represents the ideal cultural tool to shape the possibility of understanding and discernment so that the different frames of reference encoded from immediate everyday knowledge can be reinterpreted and recoded for their operative modification and give rise to new learning. Language and thinking are functionally integrated by traversing the hard core of hypotheses and theories legitimized by the student who recodes and constructs new knowledge and deploys new skills to process knowledge, (Parra, 2014), (Sierra & León, 2019). Mediation is not limited to the construction of knowledge; it is transferred to the cognitive sphere so that students reach the development of metacomponents that allow them to become aware and intentional about their learning processes.

The discursive and pedagogical approach to mediation shapes a symbolic interactionism between teacher and student where their metacognitive components and metacomponents, their analytical intelligence and practical intelligence, are deployed towards the evolutionary and academic scope of the students, (León & Zúñiga, 2019).

Method

The methodological design is a quantitative study defined from the empirical-analytical research paradigm. Quantitative studies derive from the natural and exact sciences such as chemistry and physics. Epistemologically, they are based on the Galilean tradition of science and the positivism of Augusto Conte. This paradigm determines measurement, empirical testing and verification as criteria of validity, reliability and scientificity of research data (Mardones, 2000), Hernandez (2015), epistemological coherence between paradigm and design is therefore conceived. Quantitative research favors positive knowledge, which is measurable, quantifiable and proven in the research results.

To develop the empirical process of the research, a quasi-experimental design is proposed, with a longitudinal approach, with observation before (OA) and observation after

(OD), having developed an intervention strategy for the training of metacomponential (metacognitive) processes in high school students, specifically in the ninth and tenth grades of the Colombian regulation of the Ministry of Education.

Quasi-experimental designs have their origin in the analytical empirical paradigm of research, as they maintain similar characteristics to experiments. They are applied in social situations where the researcher cannot present the values of the independent variable at will, nor can the experimental groups be presented randomly. But it does allow the application of procedures similar to experimental design for data collection.

The quasi-experimental design leads to establishing causal relationships between the Dependent Variable (assessment of metacognitive or metacomponential skills) OA and the Independent Variable, (testing of an intervention strategy, based on mediation for the development of metacognition and modification of cognitive structures).

For OA, the questionnaire "Inventario de habilidades metacognitivas, developed and validated for the Colombian context by researchers Huertas, Vesga, & Galindo, (2014) and the Aurora Battery are applied. After evaluating the results of the OA, the intervention strategy oriented to the development of metacomponential or metacognitive skills in high school students is implemented. The OA has a diagnostic purpose, which allows to evaluate the functional state of the metacognitive skills of the participant sample in both groups: the control and the experimental group. Subsequently, the application of the intervention strategy is carried out to potentiate and strengthen the development of metacognition.

Research Hypothesis

The following hypotheses are defined within the study:

Null Hypothesis: In both the Experimental Group and the Control Group, there are no differences in the mediation-based assessment of the deployment of metacognitive skills applied in high school students.

Alternative Hypothesis: There are differences in the evaluation of the effects of the mediation-based strategy for the deployment of metacognitive skills applied in high school students.

Population and Sample

The starting point was a population of 1395 students belonging to three schools. The formula for calculating the sample of finite populations was applied, a procedure that yielded a sample of 178 students to form 89 students for the control group and 89 students for the experimental group. The formula applied was as follows:

$n= N×Z^2 \ p×q \ / \ d^2×(N-1) +Z^2×p×q$
$n= 1395× (1,96)^2 × (0.05) × (0,95) / (0,03)^2 (1395-1) + (1,96)^2 × (0,05) (0,95)$
$n= 1395×3,8416×0,05×0,95/ (0,0009) (1394) + (3,8416) × (0,05) (0,95)$
$n= 254,55/1,2546+0,182476$
$n= 254,55/1,437076= 177,13 =178 —> n=178$

Variables

Dependent Variable

Assessment of metacognitive or metacomponential skills.

Independent Variable

Testing the effects of a mediation-based intervention strategy for the development of metacognition and modification of metacognitive structures.

Conceptual Definition of Variables

Conceptual Definition of the Dependent Variable

Metacognitive skills can be conceptualized as a process of self-monitoring, control and supervision of thinking, which allows the subject to think about thinking; in such a way that

he/she can retrospectively analyze the course of his/her thinking in order to differentiate and select the most effective thinking strategies for problem solving. In this sense the subject, with the use of metacognition, can configure and deploy analytical intelligence and practical intelligence because he can predict and construct new ways of thinking by redescribing and monitoring the use of his skills to achieve success in solving problems inside and outside the classroom. Metacognition is the self-knowledge that people construct about the functioning of their own thinking. They essentially constitute processes of supervision and regulation that people carry out on their own cognitive attitude that is applied in the resolution of the problem and tasks favoring the evaluative success of the same, (Mera, 2022).

Conceptual Definition of the Independent Variable

Testing the effects of a mediation-based strategy. Conceptually, the strategy designed in this research is pedagogical and is based on the approach of mediation as a constructivist concept, which rethinks the teacher's pedagogical praxis. The purpose is to guide dialogical and questioning pedagogical processes, which conflictualize the students' thinking and whose final goal is to be able to configure in their thinking, abilities, skills and complex thinking strategies that develop the students' intellect in an evolutionary way. The mediating pedagogical strategy is structured as a tutorial scaffolding based on Vygotsky's zone of proximal development. It is a constructivist concept that privileges the stimulation of a dialogical approach and is characterized by symbolic interactionism oriented to the student discovering and using his cognitive capacities in the construction of expected learning and adaptive intelligence (Ramírez & Chávez, 2012).

In this sense, the interactive sociolinguistic activity allows establishing learning agreements between teachers and students, formulating activities, contents and evaluation criteria so that students understand and achieve metacognition and mental agility, developing synthesis capacity and planning work and tasks (Romero, 2015).

Mediated learning is a constructivist construct where the teacher is presented as an organizer and mediator who facilitates the modification of the student's mental structures and their cognitive transformation while making modifying interventions on the student's mental operations. The mediator acts as a support to develop the thinking system by facilitating in the student the application of new intellectual tools (Parra, 2014).

Operational Definition of Variables

Operational Definition of the Dependent Variable

In order to carry out the diagnosis of the state of development of the students' metacognitive or metacomponential skills, we started with the application of the Metacognitive Skills Questionnaire and the Aurora Battery in the Control and Experimental groups that were part of the study sample.

Operational Definition of the Independent Variable

In the operationalization of the Independent Variable, the researcher designs a pedagogical strategy based on mediation that is applied in phases in the Experimental Group during a period of four months, a process during which the students develop exercises oriented to the deployment of metacognitive skills and abilities. At the end of the training, the effects of the strategy are measured by applying the Metacognitive Abilities Questionnaire and the Aurora Battery. The statistical process is performed with the application of Radial Statistics and Student's t-test for independent samples and paired samples.

Research Instruments

For the empirical execution of the research, the following instruments are applied:

1. Inventory of Metacognitive Skills, developed by Huertas, Vesga, & Galindo, (2014) for students in the Colombian context. The instrument evaluates the application of metacognitive and/or metacomponential skills in problem solving and academic tasks, self-regulation, monitoring and control. It is considered relevant within the framework of this research because of its validation for the Colombian context. It is a highly reliable instrument with a Crombach's alpha of 94 making the instrument valid and reliable. Assesses students' metacognitive awareness. The instrument was created by Schraw and Denninson (1994) to identify metacognitive skills. It is made up of 52 items distributed in 8 categories as follows:

Declarative knowledge, made up of items 5, 10, 12, 16, 17, 20, 32 and 46.

Procedural knowledge, consisting of items 3, 14, 27 and 33.

Conditional knowledge, comprising items 15, 18, 20, 20, 29 and 35.

In the regulation of cognition the questionnaire assesses the categories presented below:

Planning, items 4, 6, 8, 22, 23, 42 and 45.

Organization, items 9, 13, 30, 31, 37, 39, 39, 41, 43, 47 and 48.

Monitoring, items 1, 2, 11, 21, 28, 34 and 49.

Debugging, items 25, 40, 44, 51 and 52.

Evaluation, items 7, 19, 24, 36, 38 and 50.

This intervention strategy, based on mediation for the development of metacomponential and/or metacognitive skills, is developed in four phases of exercises: metacognition, executive control, self-regulation and monitoring. Each phase has an intensity of eight hours for a total of 32 hours of intervention. Mediation is the constructivist and tutorially scaffolded intervention strategy defined for it. This skill constitutes a psychological competence oriented to potentiate the development of students' metacognitive abilities.

2. The Aurora Battery, to evaluate analytical capacity. It is an instrument designed to evaluate the analytical, practical and synthetic skills of the subjects. It was created by researcher Sternberg, (2006) and validated for the context of Spanish-speaking countries by researcher Llor, (2014). In the present research, the factors related to analytical intelligence and practical intelligence are applied. The Aurora Battery allows determining the successful intelligence of individuals and is related to the academic performance of individuals (Prieto, Ferrándiz, Ferrando, & Bermejo, 2015). It was initially created to evaluate the performance of

students with high abilities, but it is currently used to respond to diversity, since it is based on the principle that people have the ability to achieve their goals and objectives within the context that circumscribes them. However, to this end, people must enhance their strongest abilities and compensate for their weaker ones in order to achieve an adaptive intelligence to interact with the surrounding environment as a successful individual.

•	Analytical Intelligence comprises six types of exercises such as: homophonic words, limited metaphors, math flashcards, algebra, Tangrams and connected ships.

•	In the Limited Metaphor Exercises, the student must identify words that present an apparent relationship between unrelated elements.

•	In Tangrams the student must complete figures from a set of pieces. The exercise assesses spatial skills, analytical skills, synthesis, logical processes and problem-solving strategies.

•	The Algebra Exercises require the resolution of basic operations and the understanding of certain complex language.

•	Floating Ships assesses the ability to discover complex spatial relationships that individuals can perform.

At the Practical Intelligence level, the test comprises the following exercises:

•	The Money Exchange program evaluates situations and problems that arise in daily life.

•	Logistics Maps that evaluate the capacity to plan.

•	Shades of Toys that exercise in individuals the ability to determine the spatial movement of bodies.

•	Paper Cuts, which exercises spatial relationships.

Procedure and Data Analysis

To carry out the research, meetings were held with the school principals to obtain permission and informed consent from the parents. As well as for the granting of the endorsement in order for their sons and daughters to participate in the research. Meetings are held with teachers and students to inform them of the process of empirical execution of the research.

Cooperation agreements were signed with the rectors to inform them of the objectives of the research and the contributions of the intervention strategy in terms of academic, cognitive and personal development for the students and were organized into Control Group and Experimental Group. For OA the groups were assessed with the Metacognitive Skills Inventory and with Ala Batería Aurora to determine their metacognitive functioning. Radial Statistics was used to analyze the data from the instruments applied. Later, Student's T-test for paired samples was used to define the observation before the experiment. Having carried out the observation procedure before, the intervention strategy for the deployment of metacognitive or metacomponential skills is developed. The strategy was carried out in four phases of execution, the first one oriented to the training of metacognitive skills, practical intelligence and analytical intelligence. The second for self-regulation with exercises for the management of declarative knowledge, procedural knowledge and conditional knowledge. The third is for the executive control of thinking with planning and organization exercises, and the fourth is determined by the management of monitoring, debugging and evaluation.

The strategy was executed for 16 weeks. It should be clarified that the Control Group did not participate in the execution of the program. Once the intervention was over, the Metacognitive Skills Inventory was applied again in the Experimental Group and also in the Control Group, as well as the Student's t-test for independent samples.

Statistical analysis determines mean scores, standard deviation and error of means in OA. The significance level of the Student's t-test is 0.05 to define the hypothesis test of equality of means analyzed.

The proposed design determines the application of guidelines oriented to the treatment of the variables, which are functionally manipulated as elements linked to the causes in order to measure the effect, which in turn will be related to another variable. The experimental procedure defines the measurements that need to be made and the number of times they must be performed with a statistically defined degree of confidence. The relationship is of the cause-effect type. In the present investigation the quasi-experimental design presents the following phases of the procedure:

Phase I: Evaluation in a sample of 178 subjects, OA: The metocomponential or metacognitive variable of the students was measured based on their performance with assessment tests such as the Metacognitive Skills Test and the Aurora Battery. Data were also analyzed with the support of Radial Statistics and the Student's t-test for paired samples.

Phase II: Implementation of the mediation-based strategy: Application of the mediation intervention strategy for the development of metacomponential or metacognitive skills in order to determine its efficiency in the development of executive thought processes that are fundamental for academic and learning performance. The strategy was applied to strengthen higher thought processes. In this phase, which lasts sixteen weeks, students were expected to achieve the developments that consolidate the functional mastery of metacomponential processes. In the first stage of the intervention strategy, students carried out analytical, procedural and declarative thinking processes, as well as conditional processes. In a second stage of the intervention strategy, the semiotic analysis of linguistic structures was carried out; for this purpose, the organization of thought, planning, self-regulation and monitoring of thought were worked on, since the subjects of the Experimental Group are confronted with the resolution of neurolinguistic exercises that strengthen the executive control of thought. In the third stage, students were confronted with hypothetical dilemmas and case studies in order to manage hypotheses, establish theorizations and propose solutions to the problems presented in the case studies and hypothetical dilemmas. The process aims at intellectual training, the deployment of metacognitive skills and abilities and, therefore, the intellectual development of thought

Phase III: Measuring metacognitive skills, OD: In this phase, the sample was evaluated with the aforementioned instruments. The data were analyzed with Student's t-test. The statistic was used to determine the significant difference between the experimental and control group means. Thus, the higher the value of t, the greater the evidence against the null hypothesis. The procedure allowed verifying that the applied strategy contributes to the functional deployment of students' metacomponential skills in problem solving. Data were analyzed with the Radial Statistics and Student's t-test for independent samples and for paired samples to determine the acceptance or rejection of the hypothesis.

Phase IV: Discussion of research results, conclusions and recommendations. Presentation of the impact of the intervention strategy at the level of human development and the deployment of students' metacomponential skills.

Results

The OA establishes the statistical analysis of the instruments applied, such as: The Metacognitive Skills Inventory and the Aurora Battery were processed with Radial Statistics to analyze the performance of the participant samples against the indicators of each

instrument and the Student's t-test to find the difference in means between the experimental group and the control group.

Description of Statistical Results Metacognitive Abilities Inventory

The following table expresses the averages of Experimental Group and Control Group yielded by the Radial Statistics in both groups for the indicators: declarative knowledge, procedural knowledge, conditional knowledge, planning, organization, monitoring, debugging and evaluation regarding the Metacognitive Skills Inventory.

Table 1

T-Student OA Test

AVERAGE EXPERIMENTAL GROUP	AVERAGE CONTROL GROUP
135,8	144,8
84,2	86,4
62,4	70,4
175	183,4
79,4	66,6
106,4	103
121,2	123,2
115,8	121,2

Observing the results obtained in Table 1 regarding the Metacognitive Skills Inventory for the Experimental Group and the Control Group, it is shown that the indicators: declarative knowledge (135.8 and 144.8), planning (175 and 183), organization (79.4 and 66.6) and monitoring (121.2 and 123.2) respectively are those that show the highest acceptance in the evaluated subjects of the Experimental Group and the Control Group and Control Group. The results of the Student's t-test are presented in Table 2.

Table 2

T-Student Test results of the control group and experimental group

	AVERAGE EXPERIMENTAL GROUP	AVERAGE CONTROL GROUP
Media	110,025	112,375
Variance	1275,776429	1558,690714
Remarks	8	8
Pearson correlation coefficient	0,985528524	
Hypothetical difference of means	0	
Degrees of freedom	7	
Statistic t	-0,896511016	
P(T<=t) one tail	0,199879992	

Critical value of t (one-tailed)	1,894578605	
P(T<=t) two-tailed	0,399759984	
Critical value of t (two-tailed)	2,364624252	

Therefore, the Student's T-test analysis shows that the critical value of T (1.894578605) is higher than the value of T (-0.896511016), which indicates that there are no differences in the results of both groups for the mentioned indicators.

Description of Statistical Results of the Aurora Battery. Student's t-test

The Aurora Battery focuses on two higher cognitive processes: analytical intelligence and practical intelligence. Analytical intelligence suggests the application of heuristic pathways involving organization, planning, declarative, conditional and procedural knowledge, present in the cognitive processes of problem solving. Practical intelligence is articulated around procedural knowledge and the organization of thought, applying the strategies previously designed and transferred to a new resolution process.

The statistical results of the Aurora Battery are shown in Table 3 for Analytical Intelligence and Table 4 for Practical Intelligence for both the Experimental and Control Groups.

Table 3

Analytical intelligence statistics of the experimental group and the control group

		3		3		1		6		1
Average experimental group (IA)	2,33		0,33		7,00		,83		,50	
Average control group (IA)	,67	25	,83	51	67	4,	,83	5	,00	0

T-TEST FOR PAIRED TWO-SAMPLE MEANS		
	Average experimental group (IA)	*Average control group (IA)*
Media	17,6	17,6
Variance	188,68	463,12
Remarks	5	5
Pearson correlation coefficient	0,82	
Hypothetical difference of means	0	
Degrees of freedom	4	
Statistic t	-0,0000000000000012	
P(T<=t) one tail	0,5	
Critical value of t (one-tailed)	2,13	
P(T<=t) two-tailed	1	
Critical value of t (two-tailed)	2,78	

Table 4

Practical intelligence statistics of the experimental and control groups

Average experimental group (IP)	**13,00**	**44,60**	**30,4 0**
Average control group (IP)	15,60	26,60	45,80

T-TEST FOR PAIRED TWO-SAMPLE MEANS		
	Average experimental group (IP)	*Average control group (IP)*
Media	29,33	29,33
Variance	250,49	233,61
Remarks	3	3
Pearson correlation coefficient	0,41	
Hypothetical difference of means	0	
Degrees of freedom	2	
Statistic t	0,0000000000000006	
P(T<=t) one tail	0,5	
Critical value of t (one-tailed)	2,92	
P(T<=t) two-tailed	1	
Critical value of t (two-tailed)	4,30	

According to the mean differences analyzed with the Student's t-test presented in tables 3 and 4 respectively, the Aurora Battery shows the following: In the Analytical Intelligence test (Table 3), the critical value (2.13) is higher than the T value (0.00000000000000012). Therefore, there are no significant differences between the Experimental Group and the Control Group in terms of cognitive performance in this type of intelligence. In relation to the Practical Intelligence test (Table 4), the critical value (2.92) is higher than the T value (0.00000000000000006) this shows that there are no significant differences in the performance of this type of intelligence between the Experimental Group and the Control Group.

Results OD

The OD in the present research is carried out with the analysis of the Radial Statistics that determines the performance of the Experimental Group after having carried out four months of intervention with the mediation-based strategy. In this second evaluation moment, the results of the Radial Statistics of the Experimental Group are compared with the results of the same group in the OA and with the results of the Control Group, with the application of the Student's T-test for paired samples and independent samples. It is necessary to clarify that the Experimental Group was composed of high school students with academic difficulties, while the Control Group was composed of high school students without academic difficulties. The results are presented in Tables 5 (Experimental Group) and 6 (Experimental Group and Control Group) respectively.

Table 5

Experimental group (OD-Radial)

EXPERIMENTAL GROUP (O.D)						
ANSWER OPTIONS						
INDICATORS	1	2	3	4	5	TOTALS
Declarative knowledge	51	55	126	192	288	712
Conditional knowledge	28	44	91	119	169	451
Procedural knowledge	30	32	88	88	118	356
Organization	69	96	128	244	353	890
Debugging	17	32	79	134	183	445
Evaluation	45	46	86	150	207	534
Planning	45	61	124	169	224	623
Monitoring	45	64	113	174	227	623
TOTALS	330	430	835	1270	1769	4634

When observing the results obtained from the metacognitive skills within the Experimental Group, it is evident that the indicators: organization, declarative knowledge, planning and monitoring, according to the order described, are the indicators with the highest acceptance by the evaluated subjects.

Table 6

T-test for paired two-sample means experimental group

	AVERAGE EXPERIMENTAL GROUP (O.A)	*AVERAGE EXPERIMENTAL GROUP (O.D)*
Media	110,025	115,85
Variance	1275,776429	1167,86
Remarks	8	8
Pearson correlation coefficient	0,996536529	
Hypothetical difference of means	0	
Degrees of freedom	7	
Statistic t	-5,004268359	
P(T<=t) one tail	0,000778886	
Critical value of t (one-tailed)	1,894578605	
P(T<=t) two-tailed	0,001557773	
Critical value of t (two-tailed)	2,364624252	

The means of two paired samples obey the calculated value in standard error units. Table 6 shows that the absolute value of the T-value (-5.004268359) is greater than the critical value (1.894578605) (as is the case), the null hypothesis is rejected, which means that there are differences between the averages of the Experimental Group (before) with respect to the Experimental Group (after).

Table 7

T-test for two independent samples experimental group and control group

	AVERAGE CONTROL GROUP (O.A)	AVERAGE EXPERIMENTAL GROUP (O.D)
Media	112,375	115,85
Variance	1558,69071	1167,86
Remarks	8	8
Clustered variance	1363,27536	
Hypothetical difference of means	0	
Degrees of freedom	14	
Statistic t	-0,18823181	
P(T<=t) one tail	0,42669804	
Critical value of t (one-tailed)	1,76131014	
P(T<=t) two-tailed	0,85339607	
Critical value of t (two-tailed)	2,14478669	

If the absolute value of the t-value (-0.18823181) is less than the critical value (2.14478669) (as is the case), the null hypothesis is accepted. This means that there are no significant differences between the averages of the Control group with respect to the Experimental group during the DO.

Discussion and conclusions

Finally, the conclusions of the article will be presented in a last section, followed by the main conclusions. Where appropriate, limitations and proposals for continuity will be included. The data yielded by the OD test the alternative hypothesis for the Experimental Group, taking into account that this is the group that receives the mediation-based strategy training. The group in question is composed of students who present difficulties in academic performance and in processes related to text comprehension and analysis. Therefore, the mediation theory states that students' previous learning experience allows them to build knowledge that leads to the deployment of metacognitive skills, therefore, mediated learning experiences allow them to generate an intentional awareness regarding the relevance, effectiveness and successful function of their cognitive development (De la Portilla, Duque, Landínez, Montoya & Gutiérrez, 2022, p.149). It also corroborates the student's capacity to acquire expertise while they carry out the elaboration of their learning, since they apply their skills to face the problematizing situations and, thus, achieve metacognitive expertise. (Dussan Ruiz and Montoya 2021).

In this order of ideas, the application of the intervention strategy allowed the students of the Experimental Group to advance in the mastery of the exercises, resulting in a high performance in these indicators that are demonstrated in the data obtained from the Student's t-test. In this order of ideas, the importance of the dialogic interaction of mediation that gives rise to an intermediation between the interacting subjects is corroborated. These rely on open

dialogue, argumentation and language to meaningfully learn schooled scientific content, (Montoya, Dussan, Taborda, & Nieto, 2018).

It is concluded that intellectual training demonstrates that the exercise of higher order skills leads to the development of metacognition. It can be understood that cognitive transformations operate from the neurobiological and social structural order, since mediation stimulates the cognitive action of the learning subjects, who operate, mobilize and dynamize cognitive and intellectual processes that transform their thinking. The pedagogy of mediation, due to its dialogic character that implies the management of communicative competencies, is presented as a strategy of a dialogic maieutics that problematizes the student's thinking in its evolution.

The students participating in the research have different years of academic experience, so in the OA the Control Group and the Experimental Group presented similar results. However, after four months of application of the intervention strategy, the statistical analysis of the OD reveals significant differences in the results of the Experimental Group, with respect to those obtained by this group in the OA. All this proves that the exercise that these people carried out during the four months of application of the strategy offers palpable results in terms of progress in their performance. All this allows us to infer the cognitive evolution of the subjects. The null hypothesis is rejected and the alternative hypothesis confirming the positive effect of the strategy on the deployment of students' metacognitive skills is accepted.

The OD reveals no differences between the Control Group and the Experimental Group. The Control group was composed of students with high academic performance while the Experimental group was composed of students who present academic difficulties. The first group did not receive the application of the mediation-based strategy; however, their academic experience, characterized by good performance, is what allowed establishing the non-variability of this group compared to the Experimental Group. The application of the mediation-based intervention strategy allows students to manage better performances in thought control, self-monitoring and monitoring of cognitive processes needed in the effective resolution of academic tasks and assignments. This process is manifested in a significant improvement in the academic performance of the students in the Experimental Group.

Throughout the research, certain limitations were found regarding the timetable for the application of the exercises, since they were rescheduled within the same months of application. Similarly, there were limitations related to the paradigmatic disposition of some teachers who needed to rethink their pedagogical paradigms in order to update their teaching practice. This reality raises questions regarding the approach to the students' learning process and invites further research on the advancement of pedagogy.

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Perspectives on the effect of virtual education and confinement on the emotions of children from two to five years old, and their families, in a pandemic context

Perspectivas sobre el efecto de la educación virtual y del confinamiento en las emociones de niños de dos a cinco años, y de sus familias, en un contexto de pandemia

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	ABSTRACT
Keywords: virtual education, COVID-19, confinement, emotions, family.	The health emergency caused by COVID-19 pandemic forced education systems to modify the traditional way of providing education, schools adopted virtual education as the most efficient alternative to continue studies, bringing with it important emotional changes in the children lives. This article analyzed different perspectives on the effect of virtual education and confinement on the emotions of children aged two to five years, and their families, in a pandemic context. A qualitative approach was adopted as the study method. It was found that children experienced changes in their emotions during the pandemic and virtual education, teachers and parents also reported changes in their emotions, they experienced more tension and stress as a result of virtual education. In addition, the fear of contagion could impact the emotional expression of boys and girls. It's concluded that the data found in this study provide relevant scientific knowledge about the effects of the pandemic and virtual education in early childhood.
	RESUMEN
Palabras clave: educación virtual, COVID-19, confinamiento, emociones, familia.	La emergencia sanitaria ocasionada por la pandemia de COVID-19 obligó a los sistemas educativos modificar la forma tradicional de impartir educación, en la mayoría de los casos las escuelas adoptaron la educación virtual como la alternativa más eficiente para continuar los estudios, trayendo consigo importantes cambios a nivel emocional en la vida de niños y niñas. El objetivo de la investigación es analizar diferentes perspectivas sobre el efecto de la educación virtual y del confinamiento

en las emociones de niños de dos a cinco años, y de sus familias, en un contexto de pandemia. El diseño de la investigación es cualitativo. Los resultados sugieren que, los niños experimentaron cambios en sus emociones en medio de la pandemia y la educación virtual los docentes y padres de familia también manifestaron cambios en sus emociones, experimentaron más tensión y estrés a raíz de la educación virtual. Se encuentra además que, el temor al contagio puede impactar en la expresión del afecto y en la espontaneidad de los niños y niñas. Se concluye que los datos encontrados en este estudio aportan conocimiento científico relevante sobre los efectos de la pandemia y de la educación virtual en la primera infancia.

Introduction

The arrival and progress of the Covid-19 pandemic, declared on March 11, 2020 by the WHO (2020), led governments to take restrictive measures and respond quickly to the state of emergency. One of the first measures adopted to reduce contagions was confinement and quarantines (Erades & Morales, 2020; United Nations, 2020; Sánchez-Villena & de La Fuente-Figuerola, 2020). At the same time, face-to-face activities in educational institutions were closed, so that, around the world, virtual education has positioned itself as a viable alternative that makes it possible to achieve the teaching-learning processes of millions of children, adolescents and young people (ECLAC, UNESCO, 2020; United Nations, 2020; García, 2020; Gutiérrez & Díaz, 2021). This rapid and unexpected transition between face-to-face and virtuality highlighted the marked difficulties and failures existing in the educational systems to adapt to the new modality, as well as the lack of tools to face this challenge (Aguilar, 2020; Quintero, 2020). According to a UNESCO report (2020), in the second quarter of 2020, 86% of primary school children in "low human development" countries were out of school, while only 20% of children in "high human development" countries were out of school.

A report by ECLAC, together with UNESCO (2020), indicates that as of July 7, 2020, most of the 33 countries that make up Latin America and the Caribbean had suspended on-site classes at all educational levels. This report also states that 26 countries initiated online classes and 24 countries implemented offline learning strategies. Of these 33 countries, 22 offer distance learning in both virtual and distance modalities and 23 countries broadcast educational programs on radio and television. These countries aim to reach the audience through traditional media. In the case of Colombia, on March 15, 2020, the suspension of face-to-face classes was declared throughout the country, both for public and private institutions, so managers, administrators and teachers immediately began to design non-face-to-face learning strategies, giving way to virtual education (El Tiempo, 2020). However, the country has a huge inequality gap, and a large percentage of families do not have technological tools or the possibility of connectivity, leaving them at a disadvantage compared to those children and young people who can access their classes through virtual means (López & Gómez, 2020).

In addition, this situation led to a significant number of family systems being forced to become permanently involved in the education of children, unlike in previous years, when it was observed that most parents and caregivers largely delegated the educational processes of their children to the teaching team (Amaya-López, 2020). In the particular case of preschool education, that is, education for children under six years of age, it has its own requirements. According to Aguilar, (2020) education at initial levels in the midst of the pandemic has been quite complex, considering that children are easily distracted and demand more time and support from parents and teachers. In addition, Chacha (2021) mentions that it is possible that many parents and caregivers are not in intellectual and psycho-affective conditions to handle the curricular contents and make use of the technological tools implemented for virtual education, which may affect the learning process of children, especially at initial and primary levels.

Consequently, the need for parents to provide support in the school process coupled with the pressure of the pandemic situation and confinement has brought about important changes in family functioning, physical and mental health (Sáez-Delgado, et al., 2020; Terry-Jordan, et al., 2020). This is corroborated by a survey of 62,837 parents and caregivers of pre-school children during the COVID-19 pandemic in Colombia, Costa Rica, El Salvador and Peru, which found that the mental health of parents deteriorated significantly during the period of confinement; nearly half of the caregivers reported experiencing sadness, tiredness, fear, insomnia and lack of appetite (Näslund-Hadley, et al. 2021).

However, the pandemic and the measures taken to control it have also brought about significant changes in the daily lives of children. Gatell-Carbó, et al. (2021) indicate that the situation of isolation is associated with a negative impact on child and adolescent mental health, specifically, several studies agree that children of both preschool and school age in the midst of the pandemic presented more irritability, sadness, sleep disturbances, anxious symptoms, depressive symptoms, behavioral problems and somatic complaints (Larraguibel, et al., 2021; Gómez-Becerra, et al., 2020; Domínguez, et al., 2020).

The COVID-19 pandemic, with a rapid increase in confirmed cases and deaths worldwide, has had increasingly evident effects on the psychological sphere, both in the general population and in health personnel and vulnerable groups; namely anxiety, depression and stress. (Lozano, 2020; Ramírez et al., 2020)

For their part, Serdán, et al. (2021) affirm that the emotional or psychological reactions to the pandemic situation are heterogeneous among children, that is, the responses of each infant depend on a wide range of factors, such as age range, personality traits, and even the emotional responses of the adults around them.

In general terms, the theoretical evidence shows that the pandemic situation and the move to virtual education has implied a challenge in the lives of all those who make up the educational system. Just like parents and children who receive classes through virtual means, teachers have also been affected by this work dynamic that has been associated with high levels of stress, fear, hopelessness, frustration, among other psychological alterations (Mayorga-Nuñez & Llerena-Novoa, 2021).

Finally, it is important to recognize that, in parallel to the development of the pandemic, the body of scientific knowledge about it has expanded, however, the experiences derived from the pandemic situation vary from one person to another and are determined by the particularities of the context, family system, age, experiences, risk factors and resilience (Pereira, et al., 2021). In this sense, this research aims to analyze different perspectives on the effect of virtual education and confinement on the emotions of children aged two to five years, and their families, in a pandemic context.

Method

Design

Qualitative approach. Type of qualitative methodology used: Strauss and Corbin (2002) grounded theory and Taylor and Bogdan (1990) guidelines for data analysis.

Qualitative data analysis

The data analysis was carried out using the Atlas ti software, taking into account the grounded theory and the guidelines offered by Taylor and Bogdan (1987), who propose three moments in the data analysis. Figure 1 shows the data analysis process in more detail.

Figure 1

Data analysis process
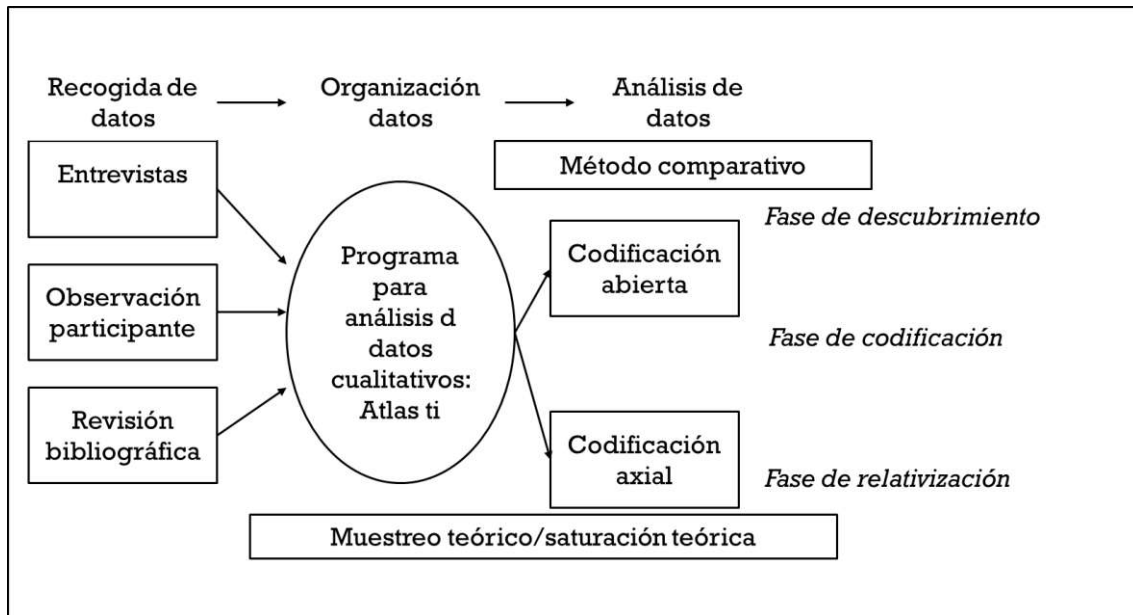
1.Discovery phase: transcripts were read twice by two different researchers. Next, emerging themes were sought and typologies were developed.

2. Coding phase: all data were coded, and the analysis was redefined if necessary.

3. Relativization phase: the interviewer's feelings at the time of the interviews were analyzed, distinguishing between the perspective of the adolescent girls individually and as a group. A critical reflection was made on the assumptions themselves.

Participants: a teacher from a private school of high socioeconomic level, a psychologist from a private school of medium socioeconomic level and a mother from a private school of medium-low socioeconomic level. Participant observation was conducted in the private school of high socioeconomic level.

Data collection techniques.

Interviews were mainly conducted. Participants were asked about some of the topics listed below:

1. Effect of virtual education on the emotions of preschool children, their parents, and their teachers at the beginning of quarantine by COVID-19

2. Sentiment of children, parents and teachers regarding virtual classes in early education.

3. Effect of virtual education on the family life of preschool children

4.Effect of confinement on the emotions of preschool children, their parents and teachers at the beginning of COVID quarantine

Results

Figure 2 shows the categories found in the study in gray and the subcategories in white. The categories have been related to each other.

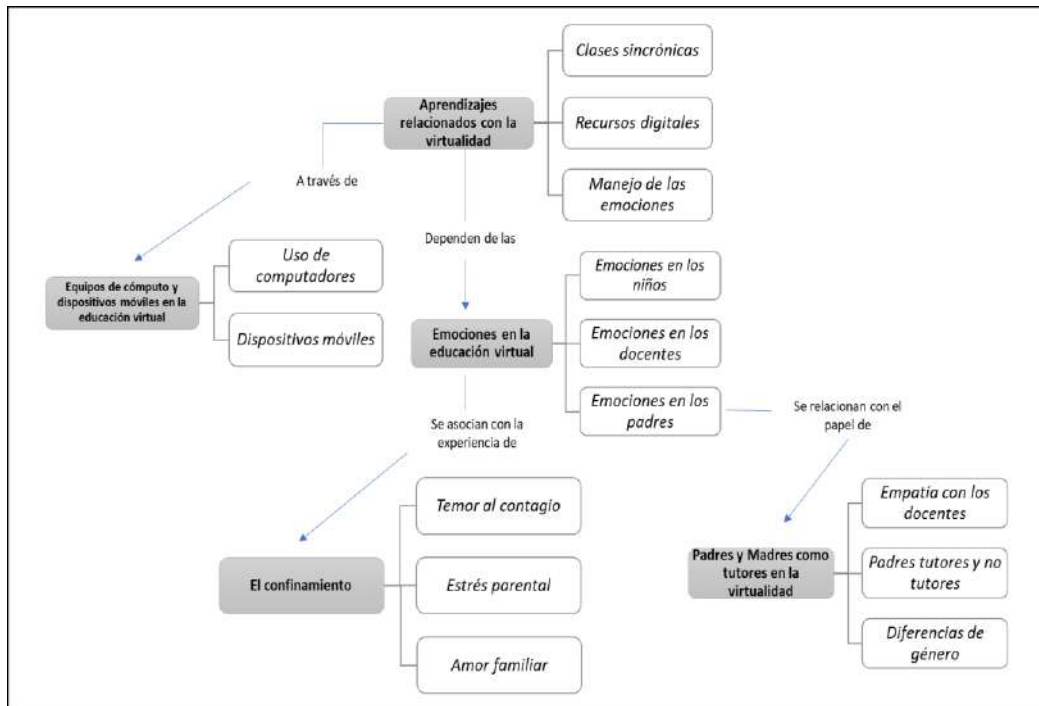**Figure 2**

Categories and subcategories

Learning related to virtuality

1.1 Synchronous classes

Children experienced changes in the number of synchronous hours from home. That is, they went from spending five to six hours at school to spending approximately three hours connected in synchrony with the teacher and classmates. At first, teachers made the effort to have children spend five to six hours on the screens; however, when they realized that children could not spend so many hours with their attention focused on a single stimulus, teachers reduced synchronous classes. Thus, some teachers decided to teach fewer synchronous classes after the snack.

1.2. Digital resources

Teachers learned new digital resources. They learned how to edit videos with more effects and develop more creative lessons. For their part, caregivers also learned how to use new digital resources, how to present videos, and how to use meeting platforms, such as: Meet, Zoom or Teams. In addition, caregivers were more knowledgeable about their children's learning. A psychologist puts it this way: "It has a positive effect to take ownership of what your children are doing, on the educational side, and to be aware of what they are learning. For her part, a teacher says: "it was positive to take ownership of all of their children's content and be vigilant that they were learning."

1.3. Emotional management

Through virtual education, strategies aimed at achieving a balance in the children's emotions had to be restructured. Children showed rejection of educational settings and anger episodes increased. The teachers devised strategies aimed at managing emotions, including activities related to the Emotion Monster. Parents were encouraged to organize their own and their children's schedules. To this end, one school came up with the Everyday Clock strategy. This consisted of making a clock together with the child, reflecting different activities that would be carried out throughout the day. Schedule organization was related to lower levels of stress. A great deal of emphasis was placed on meetings with parents to ask them about their feelings, expectations and to make different recommendations to achieve an optimal learning process from a daily basis.

Computers and mobile devices in virtual education

2.1. Use of computers

Many families had to purchase at least one piece of equipment for a family member. Some families had three children, so they needed at least two computers at home.

Of the three schools, only one lent equipment to families who needed it, especially to those families who had several children in school and did not have computer equipment at home.

2.2. Mobile devices

Those students who did not have computers are called by the schools to inquire about their absence and to make telephone follow-ups. Also, many students who did not have computers worked with their parents' cell phones or tablets. Some families who did not have any of these resources were supported by some schools.

3. The role of parental mentoring

3.1. Empathy with teachers

Many parents helped their children in the first weeks of quarantine, thus many realized how much teachers help their children. One teacher tells us that a mother told her the following: "I don't know what you're doing that you have twenty in one room, and I have two and I'm tired." In fact, "many parents with three children had to seek extra help." A mother recognizes the work of teachers in face-to-face education: "Well, it's a little difficult, to be there explaining, collaborating with the tasks. On the other hand, in the classroom, the teacher is in charge of preparing the homework, correcting it, you don't have to be in charge".

3.2. Guardian and non-guardian parents

In the early days of the Covid-19 quarantine, there were parents who had to decide whether to help their children in the classroom, seek help from a third party or leave them alone. Most figured it would only be for a short time, so some parents decided to help. In this way, some parents were left as the guardians of their children's education while others relied on other people to carry out this task. A teacher comments: "there were teachers who said, it's not that they told me that they are not the teachers, that this work is mine (as a teacher), it was like they didn't want to. I don't want to be my child's teacher now. There were others who said, I'm going to become my son's teacher!". The psychologist tells us: Some parents said: "Well come on. With work and all, let's go" others: "I can't, and I need them to come back because I'm not going to be able to." Parents who decided to become tutors took ownership of the concepts their children were learning and generalized it to everyday life. Some parents reinforced concepts through the day's activities outside of the virtual school day.

However, we also have the case of working parents who cannot decide whether or not to be the guardian of their children. There were parents who simply had to continue working in quarantine, and many of them did not have nannies or teachers who could help them in the virtual education of their children. They had to leave them alone to do the workshops and homework. A mother comments: "Well, you had to help them a lot so that they would know how to manage in the area. There are many who go low academically because their parents were working, they didn't have time, they didn't have someone to guide them. I have always been here with my son, but those who could not?

A psychologist told us that some parents took the role of tutors very seriously and that in her school she had to talk to some of them to remind them that the teacher was the one who had the knowledge to help children learn with positive reinforcement. This new parental role, according to the teachers, did not cause confusion for the children: A teacher commented: "They have at no time thought that "my dad is my teacher." I don't think that happened in children. I think having their teacher there told them: this is always my teacher, but my dad is accompanying me, my dad helps me with my homework".

3.3. Gender differences

There were more mothers who decided to become guardians of the children, compared to fathers. Few parents were seen by teachers helping their children ("what I noticed in my

classes was that most of them were the moms, or the nanis," said one teacher). Some families took turns: sometimes the mother was there, sometimes the father, sometimes the nanny. A teacher commented: "well I've heard that there are dads who are less patient, moms, even if they are a little impatient, are the ones who can stay the longest." When we inquired a little more about this gender difference and about the possible overload of any of these, a teacher tells us:

"It's just that a lot of them work and answer for all the things in their house. So it's not that hard for them, it's just another thing. Unlike dad, which is just a job."

4. Emotions in virtual education

4.1. Emotions in children: In general, the feelings presented by children from two to five years of age when faced with virtual education at the beginning of the pandemic are: helplessness, tension, desire for contact, aggressiveness, sadness. A mother comments that her son felt: "sad, melancholy and desperate"; when asked why I thought he felt that way, he replies: "because I said I want to be with my friends, this one, to share with them. You know that they need that, at least, to share at recess, they run here and there. It's not the same being in the house."

One teacher states the following: "I watched from the screen as they threw things away." The children's rejection of virtual education was reflected in the children's absence from the screen, the children's crying and tantrums outside and inside the screen, the children wanted to see their peers personally.

4.2. Emotions in teachers: Teachers presented a lot of tension and concern at the beginning of virtual education in the pandemic. There was a lot of information and many new challenges from the school:

"there was too much tension at the beginning, even when they told us there was something new, we said: no way. Because we were so saturated with the news that we wanted to have everything ready."

Teachers had to find solutions to the stress they felt at work: "There were professors who even had to undergo therapy because they were so stressed (...). There was a moment when all the teachers started to share and we all had the same symptoms, there was a lot of tension in our heads."

4.3. Emotions in parents: Parents were stressed by all the changes, by the amount of work, by the possibility of getting sick. Also, some parents were out of work, which was another concern. One teacher comments on the increased stress for both parents and teachers as follows: "Both for the teachers, knowing how to deal with what we are not used to, and for them (the parents) to have one more responsibility, which corresponded to the school". For parents it was "very stressful, many were used to the fact that education was at school (...) I think the fact of being able to manage work and school is difficult" (teacher). Some expressions from parents: "I can't take it anymore, or expressions of: I'm going crazy, I don't know what to do". In addition, parents had to combine work and school life, and if they had several children it was worse: "because many worked from home, others still had to go to their jobs and the last thing they wanted to hear about was school, so I think there was stress for them as well." The psychologist says: "having more than one child also caused stress." In addition, many caregivers suffered from stress because they could not leave home and continue with "normalcy". A mother comments: "there are many people who suffered from stress because they could not go out, could not go to a supermarket or park, and that causes many illnesses due to stress (...) my mom, at least, got sick because she could not do the activities she did. Then he started to get sick.

Confinement and emotions

Fear of contagion

Fear of parental contagion had an impact on children's expression of affection and spontaneity. Some children developed a fear of contagion in the first period of quarantine. The psychologist comments that a mother called the school because she was overcome by an anxiety attack of her four-year-old daughter. The child needed to go to the pediatrician and did not want to leave the house for fear of catching the disease. She didn't want to be touched and she didn't want to touch anything because she thought she was going to get sick and die. A teacher comments: "(...) because, when a father, from an early age, tells you: don't do this, you already know that you are not going to do it, and for the rest of your life you are not going to do it (...), then, if parents are now telling their children: you cannot hug, you cannot greet (...) then I believe that this is an effect that will come now and that children may not express themselves as they naturally wish to do (...). Teachers of children in early childhood education are fearful that children will change their emotional expression because of the pandemic. Due to the adults' insistence that nothing should be touched or hugged, the teacher comments: "Children come, hug, throw themselves, say I love you spontaneously, and throw themselves and hug their friends (...) I think that affection, loving and expressing is going to be something that is going to remain in them, that perhaps, children might not be like they used to be. That is, a child will no longer say: hello profeee, if not who is going to say hello, and that's it. (...) In fact, I'm thinking about it, and it provokes something in my heart.

5.2. Parental stress

One teacher commented that there are parents who are at work all day, in the office or online, and when they get to their children, they scold them because they find them getting into mischief, and they scold them and call attention to them. She believes that, although this is part of the children's education, if the children do not receive more than this, they will also find it difficult to give. A psychologist tells us that parents, when they are stressed, don't want to know about "their children's tantrums", she says that parents call their children "Pataletosos" when they want to do their will and don't want to do what their parents tell them to do. In addition, he believes that parents should accompany the expression of children's emotions.

Parents are key in regulating their children's emotions. The psychologist comments that she suggests to parents that, when children are angry or nervous, parents should accompany the emotion, in such a way that we let the child know that we understand his or her feelings and that when he or she is calmer we can talk to him or her more calmly. All interviewees consider that the family is fundamental to help regulate children's emotions and to preserve their ability to express emotions and provide affection. A teacher says: "I believe that the family is the most important source of love. During all the time I have been in preschool I have seen how those parents who are super affectionate, the children also react the same way, they have no limits to love (...). I think that the family is fundamental now for that, that is to say, there are many fathers that at this moment, because they are busy, it is like the way they react: hey, I am working all day, but I need to be responsible for my child's affection. (...) this time is for my son and I will only be pure love with my son."

5.3. Family love

Family love can be key to rescue the expression of affection and spontaneity in children. A teacher proposes love gatherings with the children so that the manifestations of love are not lost. The teacher comments: "Children are little sponges, if you give me love, then I will also give you love. I think the fundamental thing in the family is to take an exact time to give love to your children, exact to enjoy as a family, and to know that the affection is there and has not fallen off."

Discussion and conclusions

Finally, the conclusions of the article will be presented in a last section, followed by the main conclusions. Where appropriate, limitations and proposals for continuity will be included. The existing literature on the behavior of COVID-19 in different age groups indicates that children are not the most vulnerable group to infection and disease by the COVID-19 virus; however, it has been reported that they are one of the most psychosocially vulnerable groups (Lizondo-Valencia, et al. 2021; Galiano, et al. 2020). This vulnerability is the result of the restriction of physical contact, the closure of educational institutions, kindergartens, limitation of contact with peers, restriction of recreational activities and difficulties in accessing protection in situations where children's rights are violated (Morales, 2020, De Matos, et al., 2021). This raises the need to identify the concrete effects of the pandemic experienced by children and their families.

According to Lizondo-Valencia et al. (2021) the psychological distress of children in the midst of the pandemic is not associated in itself with the virus, rather, it is closely related to the limitation to establish social ties with peers and teachers in face-to-face activities, the restriction of social and recreational activities that allow emotional regulation. This could explain the irritability, sadness, tension, rejection of virtual classes and aggressiveness experienced by the children at the beginning of the pandemic and virtual education, as expressed by their parents and evidenced by the teachers through the screens, in addition to the emotional manifestations, parents and teachers expressed that the children presented behavioral manifestations, such as tantrums, which coincides with previous studies that report a significant increase in this type of behavior in situations of confinement (Larraguibel, et al., 2021; Gómez-Becerra, et al., 2020; Domínguez, et al., 2020).

It is interesting to note how parents' perspectives are divided on whether or not to take on the role of teacher and whether or not to assume the tutoring of their children. While some parents said they were motivated to take control of their children's education, other parents said that it was a tiring job and that it depended on the teachers. Possibly, this is related to the response capacity of families to teach from home, since it has been shown that those parents who have a higher educational level and less economic difficulties during the pandemic, find it easier to meet the demands of virtual education, while those families going through economic crises, unemployment, or high levels of stress due to teleworking perceive it as difficult to meet the educational needs of their children (Failache, et al. 2020).

In fact, parental stress is one of the problems evidenced in the findings of this study; parents experience overload in their work activities and their capacity and availability to attend to their children's education in virtual mode decreases. In addition, one of the particular situations expressed by the teachers participating in this study is that stressed parents generally scold and call attention to behaviors that are in the spectrum of what a child does in early childhood, i.e., playing, exploring, or moving most of the time. This situation could have negative implications for the child's development, as stated by Mayorga-Núñez and Llerena-Novoa (2021), when children in early education receive sufficient support in their learning processes and their psycho-affective needs are met, emotional, intellectual, oral and written language development is guaranteed, but when this support is absent, these spheres of development are considerably affected.

Likewise, it has been described that early childhood is one of the critical moments in which children develop habits and lifestyles, and structure their pillars to interact socially; therefore, periods of confinement affect their ability to build social bonds, and pose a new form of relationship between childhood and society (Lizondo-Valencia, et al., 2021; Morales, 2020, Galiano, et al. 2020). In this regard, the teachers' discourse shows concern about this aspect, because of the fear of contagion, children are urged to reduce contact with people outside the family circle and in the future this could have repercussions on the way they relate and establish

bonds, which is why teachers insist on the need to strengthen family ties and expressions of love that can counteract the effects described above.

On the other hand, the findings from the interviews show that in those households where there was more than one child taking virtual classes, stress and tension intensified, a situation described by both parents and teachers. It has also been found in other studies that, since the pandemic is an unforeseen situation, many families do not have technological resources for each member of the family, nor spaces conducive to the development of school activities and teleworking, and this generates a burden of stress, especially for parents who are the ones who face the responsibilities of the home (Ponce, et al. 2020).

In addition, the findings of this study show that there are gender differences in the process of accompanying boys and girls, the mothers participating in this study reported that they were constantly supervising and accompanying their children's activities, the teachers also observed these marked gender differences. Respectively, preceding research has reported that women are generally the ones who take control of their children's virtual education; moreover, mental health distress is higher in those women who assume the greatest responsibility for accompanying children in early education (Näslund-Hadley, et al. 2021). In this sense, for future studies it would be important to thoroughly review the mental health status of mothers who have constantly accompanied their children through virtual education. Although it is important to consider the involvement of families in the success of childhood learning, the socio-historical construction of roles has imposed these tasks as the exclusive responsibility of women. In this sense, the conditions caused by the pandemic have exacerbated the double presence of women, along with the increase in discomfort and negative health effects (Quezada, De la Hoz & Lara, 2021).

A topic of notable interest to this study has been the access that participating families have to technological resources and the ability of parents to use these resources for the benefit of their children's education. While some families had sufficient computer equipment available, other family groups did not have the required equipment and received support from the educational institutions by telephone, in some cases students used their parents' cell phones as a means to receive virtual classes, among other situations that put learning at stake. In this regard, García (2021) points out that in Colombia the closure of educational institutions due to the Covid-19 pandemic has made visible the significant gap that exists in education, specifically for children under five years of age, which implies deficiencies in cognitive achievement that may have repercussions throughout life and an increase in the conditions of inequality in the country in the following decades.

Finally, it is important to note that virtual education has proven to be a challenge for teachers and they have inevitably experienced fluctuations in their emotional state. The participants of this study state that the beginning of the pandemic and virtual education brought with it tension, somatic complaints, worry and uncertainty, especially due to the saturation of information and work to which they were exposed, subsequently, teachers were forced to seek solutions to this state of tension, such as: sharing their own experience of tension and seeking therapy. Similar findings were reported by Calderón and collaborators (2021), who interviewed 14 preschool teachers and reported having experienced stress, anxiety and physical health problems during the health contingency period and the beginning of virtual activities with the children. From the teaching point of view, the use of communication and information tools in virtual training environments is limited, conditioned to motivation and in many cases weak in terms of their training to handle them; many lack sufficient experience in the use of instruments that can be employed in their didactic and methodical non-face-to-face (Pincay, 2018; Cabero and Marín, 2014, cited in Martínez-Garcés and Garcés-Fuenmayor, 2020).

The findings of this research allow us to conclude that virtual education has affected the emotions of teachers, parents and children; likewise, it is evident that the situation of virtual education and confinement becomes more complex in those cases where there are no resources at home: computers, tablets. Secondly, few mothers mention their husbands as support in virtual education, but it is worth noting that in some cases the extended family is in charge of providing support and in these cases the family is better able to handle the overload of virtual education. Finally, the analysis of children's emotions allows us to affirm that the fear of contagion can have an impact on the expression of affection and spontaneity of children; however, it is observed that when parents are calm and manage their emotions adaptively, their children do too, in this sense, love in the family can rescue the expression of affection and spontaneity in children from two to five years old.

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HIV and suicide attempts in the municipality of Ibagué-Colombia during the years 2020-2021
VIH e intento suicida en el municipio de Ibagué-Colombia durante los años 2020-2021

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|	ABSTRACT
Keywords: mental health, human immunodeficiency virus, performance, suicidal behavior.	The present study analyzes the relationship between suicide attempt and HIV diagnosis in the municipality of Ibague, Colombia during the years 2020 - 2021. The study has an observational cut (data obtained from the notification forms of the Institute of Public Health Surveillance of Colombia), transversal, comparative and relationship between two events. It is observed that during the year 2020 there were 1106 suicide attempts and 361 HIV diagnoses: for the year 2021 a frequency of 933 suicide attempts, and 335 HIV diagnoses. A sociodemographic characterization of the analyzed populations is also presented. Results: In 2020 with a total of N: 1106 (54.23%), while for the year 2021 N: 929 (45.57%), of which 4 (0.20%) are living with AIDS. Now, in the statistical analysis it is observed: χ^2= 2383.83675, P= 0; r= -1; r^2= 1; ODS RATIO VALUE= 0.00165975. Conclusions: There does not seem to be a strong relationship between the risk of committing suicide and having HIV; It is observed that the risk of suicide attempt in the city of Ibague is 0.0001%; With the value of χ^2, the Null Hypothesis is rejected; With the value of P it is determined that the relationship between the variables is null.
	RESUMEN
Palabras clave: salud mental, virus de inmunodeficiencia humana, deseo de muerte, performance, conducta suicida.	El presente estudio analiza la relación entre intento suicida y diagnostico VIH en el municipio de Ibagué Colombia durante los años 2020 – 2021. El estudio tiene un corte observacional (datos obtenidos de las fichas de notificación del Instituto de Vigilancia en Salud Publica de Colombia), transversal, comparativo y de relación entre dos eventos. Se observa que durante el año 2020 se tuvo 1106 intentos suicidas y 361 diagnósticos por VIH; para el año 2021 una frecuencia de 933 intentos suicidas, y 335 diagnósticos por VIH. También se presenta una caracterización sociodemográfica de las poblaciones analizadas. Resultados: En el 2020 con un total de N:1106 (54,23%), mientras que para el año 2021 N: 929 (45,57%), de los cuales 4 (0,20%) son Personas Viviendo con el virus-PERSONAS CON VIH. Ahora bien, en el análisis estadístico se observa: χ^2= 2383,83675, P= 0; r= -1; r^2= 1; VALOR ODS RATIO= 0,00165975. conclusiones: No parece haber una relación fuerte entre el riesgo de suicidarse y tener VIH. Se observa que el riesgo del intento de suicidio en la ciudad de Ibagué es de 0,0001%; con el valor de χ^2 se rechaza la Hipótesis nula; con el valor de P se determina que la relación entre las variables es nula.

Introduction

This is a study that seeks to identify the occurrence of attempted suicide behavior in patients diagnosed with Human Immunodeficiency Virus - HIV in the municipality of Ibagué Colombia during the years 2020 - 2021.

Currently, these two variables, suicide attempt and HIV diagnosis, are of special interest for the Public Health Surveillance System in Colombia-sivigila. Self-inflicted injury behavior is measured since 2016, "since then a gradual increase in the national incidence rate is observed" (sivigila;2020).

Figure 1

Behavior of suicide attempt incidence rate by epidemiological week, Colombia, 2018 to 2020
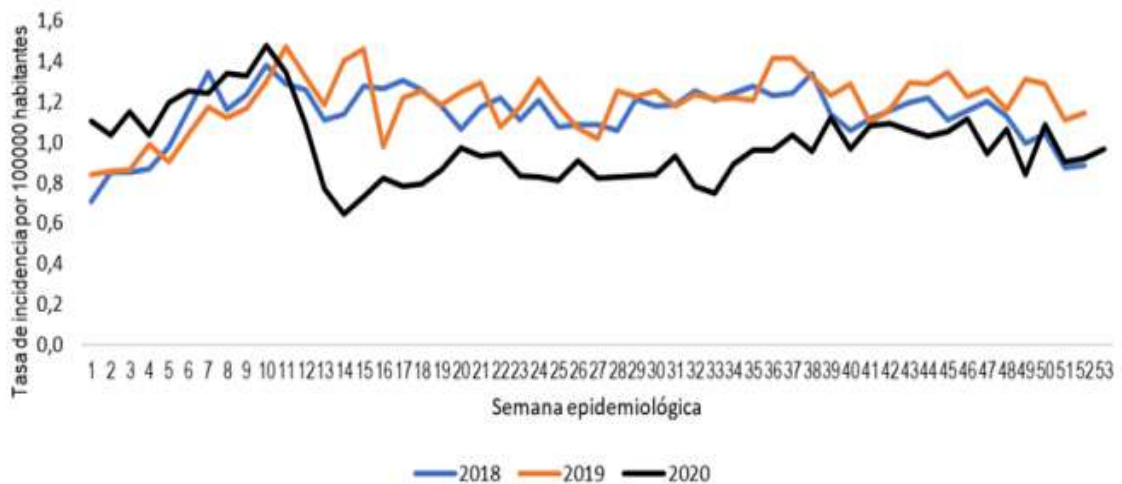
Note: in 2020, 26 202 cases of attempted suicide were submitted to Sivigila. The rate of attempted suicide per 100 000 population during 2020 presented a decrease compared to 2018 and 2019. In recent years, there has been an upward trend, with a higher rate of increase among women. The rate per 100 000 in 2020 starts with an increasing trend during the beginning of the year, same behavior shown in 2018 and 2019. During week 13 there is a decrease. However, during the three years mentioned above, it is possible to see peaks and troughs. Taken from *Instituto Nacional de Salud, Colombia. Suicide Attempt 2020 event report. Available in: https://www.ins.gov.co/buscador-eventos/Informesdeevento/INTENTO DE SUCIDIO_2020.pdf*

According to the statistical data presented by Sivigila (2020), 43% of the 37 departments that make up the Colombian territory presented rates higher than the national rate, i.e. 52.0 per 100,000 inhabitants. The department of Tolima has the highest rates.

On the other hand, the monitoring of the behavior of HIV diagnosis at the national level comparing year 2019-2020 has seen an increase in those of 14.6%, the High Cost Accounts-CAC highlight that an increasing trend is evident; for 2019 Tolima had a rate of 223 Persons with HIV, while for 2020 Persons with HIV are observed. 241.

However, the presence of different risk factors such as genetic-biological, social-demographic factors, family and childhood characteristics and personality traits and cognitive styles are estimated for the occurrence of suicidal behavior (R, 2019), with HIV being a risk factor for the occurrence of self-injurious behavior (Palacios; Rueda; Valderrama 2006).

Justification

The relationship between HIV and suicide carries culturally constructed **social stigmas** that require a counter-intuitive approach based on the data sets available from the health sector. This is a process in which society categorizes people based on traits that are rejected or

undervalued and that have been constituted as negative categories. These categories are constituted as defect, fault or disadvantage that are incongruent with the stereotypes of the different population and age groups that are prevalent in HIV.

The stigmas associated with HIV and suicide show the negative side of a person with respect to normality (as defined by the majority and dominant group in society). In this sense, it is pertinent to clarify that: discrimination is the action through which certain attributes (genotypical and social) of people are devalued, directly or indirectly justifying the exercise of various types of violence against those who possess them. This is complemented by the understanding that discrimination has a genealogy in each society, as well as particular discursive forms and socio-historical behaviors that belong to its past and are transmitted from generation to generation. (Margulis and Urresti, 1998, p. 292; Martin-Pérez; 2021).

In addition to the physical and emotional dependence that increases when both physical and psychological characteristics require higher levels of care, it generates responses, which on many occasions will express a type of discrimination: abandonment and self-abandonment that leads to suicidal ideation or behavior. One phase of this process would be the acquisition of beliefs about what it means to be a person with HIV in the society in which he/she lives and a second phase would be learning the consequences of living with HIV including suicidal behavior.

The counter-intuitive approach based on epidemiological data allows taking into account the carrier's relationships with both the informal and formal community to which he/she belongs are decisive. Stigmatization, in this case in the face of HIV and suicide, allows the identification of common life situations that derive in a joint classification, being able in turn to organize around them assumptions related to human nature: with the intersectionality of ethnicity, age group, socioeconomic level and gender that allow complementing the reduction of the complexity carried out by the HIV data and its correlations and possible causalities with suicide.

Based on the above, the question arises: Is there a relationship between the increase of HIV diagnosis and the increase of attempted suicide in the municipality of Ibagué Tolima during the years 2020 - 2021? It should be taken into account that in Colombia and in Tolima there are no studies or analyses of this type, which seek to relate two variables. Similarly, in the notification forms for the two events, these variables are not addressed; in the notification form for attempted suicide, chronic disease is explored, while for the HIV notification form, the clinical information does not address psychological history or the course of current suicidal ideation.

Objectives
A. General Objective
To evaluate the relationship of attempted suicidal behavior in HIV patients in the municipality of Ibagué Tolima during the years 2020-2021.
B. Specific Objective
To profile sociodemographic variables of people diagnosed with HIV.

To analyze sociodemographic variables of people with suicide attempts in the municipality of Ibagué Tolima during the years 2020 - 2021.

Theoretical and conceptual framework
The process of construction of social identity, which emerges in situations of social interaction, has in HIV a source of stigmatization against which society establishes the means to categorize people. The social environment establishes categories of people that can be found in it. Then social exchange makes it likely that when interacting with a stranger, the first appearances allow us to foresee what category he is in and what his attributes are, i.e. what his social identity is.

To understand the bio-psycho-social impact of HIV/AIDS on the deterioration of social identity, it is necessary to understand the origins of stigma. Martin-Perez (2021) indicates that this is produced by primary reactions such as fear of the unknown, contagion/transmission and the constant search for virus transmission. Similarly, the same author relates stigma to the lack or misinformation about AIDS, HIV and the discriminatory relationship with other previously stigmatized groups such as the LGBTI+ community, sex workers and drug users. On the other hand, Parker, et al. (2012), propose four categories of stigma that are immersed in society: sexuality, gender, race and social class; thus, people with HIV are associated with already stigmatized groups, which increases the vulnerability of the individual.

Thus, stigma can be considered a social and multidimensional phenomenon that affects the person with HIV, not only in physical but also in mental health. In this area, there are manifestations such as: loss of self-esteem, poor self-concept, feeling of vulnerability, loss of control in the face of future events, loss of security or self-confidence, feelings of worthlessness and helplessness, loss of social, family and marital role, deterioration of social, family and couple relationships, difficulties in performing their work or occupational activities, difficulties in leisure and recreational activities, economic concerns, changes in the conception of life, guilt, irritability , depressive symptoms, and anxiety and/or stress (Palacios; Rueda; Valderrama 2006). In addition, one of the tipping points for suicidal ideation and behavior is associated with the personal history that accompanies and sustains the extension of stereotypes.

In the class on stigma and discrimination taught in the Master of Human Immunodeficiency at the Universidad Rey Juan Carlos de España by Professor Martin-Pérez (2021), he relates studies in which people with HIV have felt excluded or discriminated against in the following way: In Myanmar, 11% of people with HIV have been excluded from family events; in China, 79% of people reported fear of being the center of gossip; in the United Kingdom, 22% reported physical aggression; and in Ecuador, 12% reported that they were expelled from educational institutions because of their HIV status.

Palacios et al (2006) as well as Lopera (2010) conclude that in Colombia there is a lack of more quantitative research on discrimination and stigma among people with HIV. Ramos-Jaraba in her study with transgender women (2021) shows how 15.8% of PLHIV avoid health services, and 45% felt discriminated against. This, according to the author, could be related to the country's heteronormative discourse, which could have other repercussions such as reduced access to education or stable employment. Something striking in this research is the doctor-patient relationship, since the results show that people with HIV have felt mistreatment and discrimination by health professionals at some point.

Tamayo-Zuluaga B. et al. (2015) concluded that there is greater stigmatization towards HIV patients in the first cycles of training. Similarly, an article in Web Infobae shows that, in a study conducted in Colombia during 2019 by the Ministry of Health, it can be seen that in Colombia some HIV-positive people avoid telling their family and coworkers about their status. Cabrera (2022) mentions that in a study conducted in the main cities of Colombia, Bogotá, Cali, Medellín, Bucaramanga, Pereira, Dosquebradas and Cartagena, situations of discrimination such as harassment, threats and aggression were observed, with greater impact in the education, health and labor sectors, places of daily life, which could or are supposed to put people with HIV at a disadvantage in their social relations.

A topic of interest in this study is centered on how the person with HIV interacts in the social environment. As is well known, the HIV patient is in a physical and psychological vulnerability derived from social stigma, opening the question: How could these interactions be understood? From micro-interactionist sociology, the units of analysis refer to structured situations and casual aggregations, which have the affective dimension at the core of the process (Rizo; 2015). These situations are mediated by physical co-presence or face-to-face encounters (López and Reyes, 2010, p. 115). In other words, people in everyday life move in a

limited field of study known as the "interaction subsystem". This subsystem is complemented by each of the subsystems of the social system, which are mediated by the intersubjective and communication (Belvedere, 2012, p. 14). These two aspects, intersubjectivity and communication, are of vital importance considering that they intervene in the interpretation of stigmas, i.e., when a stigma is internalized, it gives way to self-stigmatization, when the subject appropriates social attitudes. On the other hand, there is perceived stigma, when the person with HIV has internalized stigma and anticipates discrimination, and confirmed stigma, which refers to actual experience of discrimination (Martin-Pérez, 2021).

Interactionism focuses its attention on face-to-face interaction, this being the scenario where we develop the affective component that builds us as social individuals (Goffman, 1959; Herrera and Soriano, 2004; Rizo, 2015). In this way, social interaction is a performance, that is, it is an interpretation, the social actor is a *performer*, because he is not only acting around a role, but he is also interpreting it. The performance has its own emotional aspects and those of others, being the basis of our social construction and daily interactions. This actor plays the role that corresponds to him/her, he/she does things to be observed by others. On the other hand, it defines that the interaction will exert norms, making differences emerge derived from: status, sex, nationality and skin color of the interactant. In this sense, the effects of the performance place all social actors in a situation of *performance*.

The final *performance* would be suicidal ideation and behavior as symptoms that appear with relative frequency among patients with HIV infection, derived from discrimination, stigma and the impact of HIV diagnosis, which increases the risk of suicide, it is observed that the highest risk is in the six months after receiving the diagnosis and at the time when AIDS symptoms appear (Palacio, Valderrama, 2006).

Pei JH, Pei YX, Ma T, Du YH, Wang XL, Zhong JP, Xie Q, Zhang LH, Yan LX, Dou XM (2021) conducted a systematic review, where they sampled 36 studies from 15 countries finding that PLHIV have a prevalence of suicidal behaviors of 20.9%, 8.1% for suicidal ideation, and for plans and attempts 7.5% more frequent than in the general population.

On the other hand, Hentzein M et al (2018) during 2010 in France identified that 4% of deaths of People with HIV were caused by suicide, a higher percentage than in the general population. According to the study "The prevalence of suicidal ideation and depression in our environment amounts to 20.8% and 23.2% respectively. Toxic substance use, an advanced current CDC status, impaired functionality, residing in a rural area, and having a history of psychiatric and personal suicidal risk were identified as potential risk factors for the occurrence of depression and suicidal risk. Possessing a diagnosis > 2 years, a certain degree of lipodystrophy and coinfection with Hepatitis C- HCV Virus was correlated with the occurrence of depression" (Marengo Velázquez & Bogado Aquino, 2018). On the other hand, in Switzerland Keiser et al., (2010) followed up 15,275 People with HIV during the years 1988 to 2008 finding that 150 people with HIV died by suicide.

Wisnousky et al. They conducted a systematic review and meta-analysis, where, they identified 185,199 persons with HIV with an overall incidence of completed suicide of 10, 2/ 1000 persons, suicide attempts 158.3/ 1000 and suicidal ideation 228.3/1000. Similarly, meta-regression showed that for every 10 people with HIV, the risk of suicide completion increased by 34 per 1000. They concluded that the risk of death by suicide is 100 times higher in people with HIV. Likewise, in a review conducted by Teti et al in 2014, they identified in Latin America and the Caribbean 2987 studies, they reviewed a total of 17 studies to determine the possible risk factors for suicide, determining that factors such as family problems, previous suicide attempt, were the predominant factors in consummated suicide in males especially.

Now, as mentioned above, it is possible to determine a relationship by the emotional impact derived from the social construct, the stigma and the emotional impact that increases

the risk of the presence of the behavior. However, in the national context, there are no studies that estimate the occurrence of attempted suicidal behavior and HIV diagnosis.

Method

Study

The present study is a cross-sectional (2020-2021), comparative-correlational study that generates a relationship between two points in time. The type is observational, it only describes variables, from the database generated from the notification forms Cod INS 356 (annex 1) that report suicide attempts, and Cod INS 850 (annex 2) that reports cases of HIV in the department of Tolima period 2020-2021.

Population

It is constituted by the total number of individuals reported from the notification forms Cod INS 356 reporting attempted suicide, and Cod INS 850 reporting HIV cases.

Thus, in 2020 there were 1106 suicide attempts and 361 HIV diagnoses; in 2021 there were 933 suicide attempts and 335 HIV diagnoses.

Collection technique

The technique used will be data collection, referring to obtaining the database of the department of Tolima generated from the notification forms for Attempted Suicide, Cod INS 356- Cod INS 850 and its attached basic data sheet compiled by the Sivigila system that report attempted suicide and HIV diagnosis in the period 2020-2021.

Exclusion and inclusion criteria

Table 1
Inclusion and exclusion criteria

Inclusion	Exclusion
Reports generated in the notification form for suicide attempts in 2020 and between 2021 and 2021	Any report that is incomplete, therefore, incomplete variables or without the standardized criteria for filling out the database obtained from the aforementioned notification forms.

Table 2
Variables

HIV diagnosis	Suicide attempt
year, age, age group, nationality, sex, pregnant woman, clinical stage, cause of death, history of mental illness, associated illness, etc	sociodemographic factors, triggering factors, history of mental illness, triggering factor (chronic illness), age, age group, sex, pregnant woman, etc

Table 3
Excluded variables

HIV	Attempted suicide

ethnic identification, socioeconomic stratum, patient's occupation, pregnant woman.	patient's occupation, schooling, socioeconomic stratum, ethnic identification, pregnant woman, triggering factor (marital problems, death of a family member, economic problems, history of violence, history of suicidal behavior of a family member, spa consumption)

Statistical methods

A frequency analysis was performed for the years 2020-2021 for the two events of interest, HIV diagnosis (year, age, age group, nationality, sex, pregnant woman, clinical stage, cause of death, history of mental illness, associated illness) and suicide attempt (sociodemographic factors, triggering factors, history of mental illness, previous suicidal behavior, history of affective disorder, age, age, age group, sex, pregnant woman), previous suicidal behavior, history of affective disorder, age, age group, sex, pregnant woman), document purification following the inclusion and exclusion criteria, and after data selection, analysis of measures of central tendency for quantitative variables and frequencies and proportions for qualitative variables was performed. To determine the relationship and correlation between the two variables (HIV and Suicide Attempt), the Chi-square test (X2) was applied, with the result of calculating the P value, the ODS RATIO value, Pearson's correlation and R^2 were also found. For this purpose, Excel software was used, which has statistical analysis functions.

Results

By 2020 in the municipality of Ibagué, there were 44 new cases of HIV infection; while by 2021, there were 335. In reference to age, a mean age of 35 years, a minimum of 3 years and a maximum of 85 years is observed for HIV diagnosis between 2020 and 2021. In reference to sex, it is observed that HIV is diagnosed more frequently in the male sex; during 2020, 35 men were identified, while for the year 2021, 260 men were diagnosed. In reference to the female sex, 9 women were notified, compared to the year 2021, where an increase of 75 women was observed.

Sociodemographic variables HIV

Table 4
Sociodemographic variables People with HIV

SOCIODEMOGRAPHIC VARIABLES HIV-POSITIVE PEOPLE WITH HIV		2020	%	2021	%
	Reporting frequency	44	11,60%	335	88,40%
ETAREO GROUP	adulthood	28	7,39%	167	44,06%
	youth	11	2,90%	131	34,56%
	old age	5	1,32%	27	7,12%
	adolescence	0	0	8	2,11%
	early childhood	0	0	2	0,53%
SEX	F	9	2,37%	75	19,79%
	M	35	9,23%	260	68,60%

NATIONALITY	Colombia	37	9,76%	325	85,75%
	Cuba	2	0,53%	0	0
	Not available	4	1,06%	0	0
	Venezuela	1	0,26%	9	2,37%
	Guatemala	0	0,00%	1	0,26%
CLINICAL STAGE	dead	1	0,26%	6	1,58%
	aids	4	1,06%	34	8,97%
	HIV	39	10,29%	295	77,84%
CAUSE OF DEATH	B230 Acute infection syndrome	1	0,26%	0	0
	NOT APPLICABLE	43	11,35%	0	0
	A419 Septicemia	0	0	1	0,26%
	B227 HIV disease	0	0	1	0,26%
	B24X HIV disease not otherwise specified	0	0	5	1,32%
	J158 Other pneumonias	0	0	1	0,26%
	J159 Bacterial Pneumonia	0	0	1	0,26%
	J189- Unspecified Pneumonia	0	0	1	0,26%
	J960 Acute respiratory failure	0	0	1	0,26%
	NOT APPLICABLE	0	0	324	85,49%

Although this proposal focuses on the municipality of Ibagué, the notification form identifies the nationality of persons with HIV. In 2020, there were 37 new cases of HIV among Colombian nationals, 2 of Cuban origin and 5 of Venezuelan origin. During the year 2021, there were 325 HIV-positive persons of Colombian origin, 1 HIV-positive person from Guatemala and 9 cases of Venezuelan nationality.

However, it is important to identify the clinical stage of persons with HIV at the time of notification. Here it is observed that, for the year 2020 for the stadiums Muerto: 1; AIDS: 4; HIV: 39. By the year 2021 for the Muerto stadiums: 6; AIDS: 34; HIV: 295.

Finally, in 2020 the main cause of death in people with HIV was Acute Infection Syndrome; in 2021 the main causes of death were: HIV disease without other specification Acute Respiratory Failure, and respiratory diseases such as pneumonia.

Sociodemographic variables Suicide Attempted Behavior
Figure 2
Sociodemographic variables Suicide Attempt

VARIABLES SOCIOECONOMICAS		2020	%	2021	%
CANTIDAD DE REPORTES		1106	**54,24%**	933	**45,76%**
GRUPO ETAREO	JUVETUD - 17 A 28 AÑOS	489	23,98%	372	18,24%
	ADULTEZ - 28 A 59 AÑOS	334	16,38%	304	14,91%
	ADOLESCENCIA - 12 A 17	233	11,43%	208	10,20%
	VEJEZ - MAYORES DE 60 AÑOS	36	1,77%	43	2,11%
	INFANCIA -6 A 11 AÑOS	14	0,69%	6	0,29%
SEXO	F	652	31,98%	528	25,90%
	M	454	22,27%	405	19,86%
ESTADO CIVIL	CASADO	73	3,58%	65	3,19%
	DIVORCIADO	17	0,83%	22	1,08%
	SOLTERO	751	36,83%	619	30,36%
	UNION_LIBRE	248	12,16%	210	10,30%
	VIUDO	17	0,83%	17	0,83%
NACIONALIDAD	COLOMBIA	1099	53,90%	928	45,51%
	REPUBLICA DEMOCRÁTICA DEL CONGO	1	0,05%	0	
	VENEZUELA	6	0,29%	5	0,25%
FACTOR DESDENCADENANTE	ENFERMEDAD CRONICA	37	1,81%	33	1,62%
	PROBLEMA DE PAREJA+ENFERMEDAD CRONICA	4	0,20%	1	0,05%
	PROBLEMA DE PAREJA+ENFERMEDAD CRONICA+PROBLEMAS ECONOMICOS	8	0,39%	3	0,15%
	PROBLEMA DE PAREJA+ENFERMEDAD CRONICA+PROBLEMAS ECONOMICOS + MUERTE DE UN FAMILIAR+ACOSO ESCOLAR+PROBLEMA LEGAL+SUICIDIO DE UN FAMILIAR+MALTRATO FISICO-PSICOLOGICO-SEXUAL+PROBLEMAS LABORALES	1	0,05%	8	0,39%

Attempted suicidal behavior in Ibagué occurred in the year 2020, 1106 attempts were reported**,** while during the year 2021, 933 cases were registered. In reference to the age group with the most frequent occurrence of this behavior, in 2020 it was youth between 17 and 28 years of age, as well as in 2021 with 372 reported cases. The group reporting the fewest cases is childhood, however, it represents a significant number for this population. Within the sex variable, women are the most frequent suicide attempters; in 2020 there were 652 attempts, and in 2021 there were 528 suicide attempts. In terms of marital status, in the two years, those who presented more suicide attempts were single, followed by the population in a free union. Being Ibagué a multicultural city, it is observed that in addition to Colombians there are people of other nationalities who have resorted to suicide attempts, with Colombians being the most frequent, Venezuelans in second place and the Republic of Congo in third place.

However, in reference to the factors that trigger suicide attempts, the notification form considers 10 factors: marital conflicts, legal problems, chronic illness (painful or disabling), suicide of a family member or friend, financial problems, history of violence, death of a family member, work problems, school problems, family problems.

For this analysis, the variable chronic disease was taken into account, and the presentation of another factor together with chronic disease. Hence, in 2020 it was found that 37 people with a diagnosis of chronic disease made suicide attempt; 33 people with chronic disease attempted suicide during 2021. In second place, it was found that chronic illness, more economic problems and with couple problems during 2020 presented 8 people with suicide attempt, while in 2021 people who attempted suicide presented chronic illness, couple problems, death of a family member, school problems, legal problems. This shows that suicidal behavior is multicausal.

Frequency of HIV diagnosis in suicidal behavior

To determine the relationship, the following data were taken into account:

Hypothesis: Variable suicide attempt is associated with HIV.

Null hypothesis: Variable suicide attempt is not associated with HIV.

HIV: is a nominal qualitative variable.

Suicide Attempt: qualitative variable.

Sample: non-probabilistic by convenience.

It is important to mention that the significant statistical value for all the results presented below is P value <0.05.

For the suicide attempt variable, between 2020-2021, 2039 people attempted suicide. In 2020 with a total of N:1106 (54.23%), while by 2021 N: 929 (45.57%), of which 4 (0.20%) are persons with HIV.

Table 5

Frequency of suicide attempt

FREQUENCY OF SUICIDE ATTEMPT			
	YEAR	N	%
2020	Suicide attempt	1106	54,23%
2021	Suicide attempt	929	45,57%
	Suicide Attempt in People with HIV	4	0,20%
	TOTAL	2039	100,00%

However, in 2020, there were no suicide attempts in people with HIV, however, in 2021 there were 4 cases of suicide attempts in people with HIV. These data may hide an underreporting, since the design of the instruments used to collect information on suicide attempts contemplates chronic diseases, but does not specify which one. Statistical analysis shows: χ^2= 2383.83675, **P=** 0; **r=** -1; **r^2=** 1; **ODS RATIO VALUE=** 0.00165975.

Table 6
Description of variables

DESCRIPTION OF THE VARIABLES						
SUICIDE ATTEMPT	NO SUICIDE ATTEMPT	ODS RATIO VALUE	χ^2	P	r	r^2
People with HIV 4	375	0,00165975	2383,83675	0	-1	1
People not living with the virus. 2035	0					

Considering these results, it can be said that:
- There does not appear to be a strong relationship between the risk of suicide and having HIV.
- It is observed that the risk of attempted suicide in the city of Ibagué is 0.0001%.
- It would be important to review the variable of mental health care in subsequent studies. In this way, it could be determined whether there are protective factors.
- With the value of χ^2 the null hypothesis is rejected. There are discrepancies between the frequencies of the variables. Actual value less than 5. Unreliable result.

- With the value of P, it is determined that the relationship between the variables is null.
- However, the value of r indicates that the perfect inverse correlation shows that although suicide attempts are increasing in the city of Ibagué, it is not related to the increase in HIV diagnoses.

Discussion and conclusions

Micro-interactionism contributes to delimit a conceptual framework for the analysis of HIV stigma and suicidal behavior; stigma, as an impaired image and HIV stigma, linked to the categories of: prejudice, discrimination and neglect. Here, it is important to expand the research in the Colombian context, emphasizing the relationship with health services.

The revelation and redefinition of the category of interaction as a subsystem of the social system, without denying the existence of other subsystems and, above all, of its belonging to a larger order, makes it possible to complement the quantitative series of available data on HIV and suicidal behavior with a focus on the social determination of health and disease.

Social interaction and changes in society will exert norms, making differences emerge derived from: status, sex, nationality and skin color of the interactants. It will have to do with the whole "porous" situation of variable meanings that we try to keep an eye on. In this sense, we seek to control the effects of our actions from stigma and suicidal behavior.

In today's society there is a stigma towards people living with HIV, which in turn allows various types of discrimination to arise in practice. One of the objectives of the World Health Organization's 90-90-90 strategy is to reduce this stigma. In Colombia, work continues on this objective.

Advances in health technologies, both in diagnosis and treatment, have allowed a new conception of HIV as a chronic degenerative disease. This has improved the quality of life and life expectancy. However, in Colombia there is a need to train Mental Health professionals in HIV (currently training in this area is exclusively for physicians), in order to create and strengthen HIV prevention and treatment adherence programs.

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Competence to learn in police officers
La competencia para aprender en efectivos policiales

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	ABSTRACT
Keywords: learning competence, Self-management, construction, knowledge, police officers.	The objective of this study was to know the competence to learn in police personnel (n = 524). For this purpose, the Learning Competence Scale was validated and adapted for security personnel. Differences according to gender and between dimensions from this scale were studied. Participants were grouped into clusters. The sample was made up of 40.6% women and 59.4% men. The model of the aforementioned scale includes 4 dimensions: self-management of learning, which refers to the person's ability to plan their learning process; the construction of knowledge sustained in the conception that all knowledge is constructed from that previously acquired; personal knowledge as an apprentice that leads to getting to know oneself from one's abilities, skills and personal limitations and the transfer of knowledge that involves the process by which the person transfers the knowledge built, be it these operations, strategies, to use them in new situations either in the daily and school context (14 items, α = .81). Confirmatory factor analysis yielded good goodness-of-fit indices (GFI= .95 AGFI= .95 SRMR= 0.07) The K-means cluster test grouped the participants into four clusters with similarities and differences in the performance of the competence to learn. Differences between the dimensions are verified, predominating the transfer of learning and personal knowledge as an apprentice while the self-management of learning and the construction of knowledge present lower scores. No gender differences were found.
	RESUMEN
Palabras clave: competencia para aprender, autogestión, construcción, conocimiento, policía.	El objetivo de este estudio fue conocer la competencia para aprender en personal policial (n =524). Para tal propósito se validó y adaptó la Escala Competencia para Aprender para personal de seguridad. Se estudiaron las diferencias según el género y entre las dimensiones de dicha escala. Se agrupó a los participantes en clústeres. La muestra se formó con un 40,6 % mujeres y 59,4% varones. El modelo de la mencionada escala incluye 4 dimensiones: la autogestión del aprendizaje que se remite a la capacidad de la persona para planificar su proceso de aprendizaje; la construcción del conocimiento sostenida en la concepción de que todo conocimiento se construye a partir de los adquiridos previamente; el conocimiento personal como aprendiz que conlleva a conocerse desde las capacidades, habilidades y las limitaciones personales y la

transferencia del conocimiento que implica el proceso por el cual la persona traspasa los conocimientos construidos sean estas operaciones, estrategias, para utilizarlas en nuevas situaciones ya sea en el contexto cotidiano como escolar (14 ítems, α = ,81). El análisis factorial confirmatorio arrojó buenos índices de bondad de ajuste (GFI= .95 AGFI= .95 SRMR= 0.07) La prueba de clúster *K-medias* agrupo a los participantes en cuatro clústeres con similitudes y diferencias en el desempeño de la competencia para aprender. Se verifican diferencias entre las dimensiones, predominando la transferencia del aprendizaje y el conocimiento personal como aprendiz mientras que la autogestión del aprendizaje y la construcción del conocimiento presentan puntuaciones más bajas. No se hallaron diferencias de género.

Introduction

It includes the presentation of the paper and the analysis of the literature on the subject, with special emphasis on previous research that justifies the study and that will be contrasted in the discussion of the results.

All text is in 12-point Cambria font, single-spaced and with no spacing between paragraphs. The present study was carried out in one of the Police Training Centers of the Province of Buenos Aires, which is a training center.

Although several research studies have been conducted on security forces on topics such as leadership, stress, anxiety, personality styles, among others, there are still no studies on the competence to learn in this population. Rethinking the current models of police training and the competencies presented by personnel is an important element in developing the skills required for the function. It should be noted that continuing with institutional adjustment processes in the Police will be beneficial for security professionals (Bulla et al., 2015; Calandrón, 2008; Ministerio de Seguridad de la Nación, 2018).

Undoubtedly, as one moves to higher positions in the hierarchy within the security forces, training needs change and become more complex. The management and command of police services implies, as in any management activity, the deployment of a series of professional competencies. The evaluation methodology of this knowledge not only involves the assessment of operational skills, but also of specific competencies linked to self-learning and management. Therefore, it is understood that the assessment of competencies is relevant and is one of the approaches that have contributed most to the improvement of the processes of selection, training and development of people in the work context (Solé Sanosa et al., 2003). It is important to highlight that, together with the evaluation spaces, the shortage of personnel trained as instructors with teaching and police monitoring characteristics must be considered, as the professional promotion path within the force progresses (Villegas et al., 2016).

Professional competencies are "multidimensional entities that are reflected in repertoires of behaviors directly observable in a specific job in a specific organization, and also in test situations that reproduce this work reality" (Solé Sanosa et al., 2003, p.177)thus, it should be noted that in the different police training institutes both in Argentina and in other countries of the world, different techniques have been introduced with the basic objective of evaluating the professional competencies of officers for their subsequent assignment as well as in order to generate an approximate prediction of their development within the force (Solé Sanosa et al., 2003; Ministerio de Seguridad de la Nación, 2018).

Since 2016, the Police of the Province of Buenos Aires, incorporated the competency-based evaluation, regulating that it must be carried out on an annual basis. The need to plan the human resources of the Ministry of Security and to have tools to evaluate the performance of police personnel in their different subscales according to their specific tasks is highlighted. In turn, this competency-based assessment seeks to qualify police personnel in order to contribute to the development of the police career (Ministry of Security of the Province of Buenos Aires, 2016).

A growing and recurring concern in recent decades has been the definition and categorization of these competencies, as well as their analysis (Clemente Ricolfe and Escribá-Pérez, 2013; Gil Flores, 2007). It is necessary to specify a common definition of the term competency, recognized both in the academic and work environments. Discrepancies persist when it comes to delimiting it due to the multitude of interpretations, from more restrictive to more extensive precisions. The latter have a broader vision that encompasses knowledge as well as attitudes, skills, social, personal and motivational aspects. One of the sources of confusion regarding the concept of competence is that they are multidimensional entities. It is important to understand that a professional competency is not an isolated attitude, knowledge

or skill but the integration of knowledge, motivations, attitudes, personality traits and skills. Apart from this, it should also be emphasized that competencies are understood from different theoretical conceptions.

There are several definitions of the term competence from which common elements can be extracted that synthesize the essential concept of the term (Corominas et al., 2006). Competence is associated with the action performed in a given context, integrates knowledge, attitudes and procedures, and favors the resolution of professional and social situations. For the present work, the definition of competence is adopted as "a complex know-how resulting from the identification and integrated mobilization of knowledge, skills and attitudes that generate an effective result in the performance of a task, the resolution of a problem and the achievement of an objective" (Yániz and Villardón, 2006, p. 23).

Among the competencies, the competence to learn is one of the most important foundations of education in the 21st century. For Tedesco (2011) it is necessary to learn to learn, this competence being the one that leads to the famous lifelong learning. It is based on reflection on how and why we learn. The acquisition of this key competence implies knowing how to initiate, manage and persist in learning. It is a fundamental component of the competence to learn, since it is there where the foundations of education in the 21st century are laid. Learning to live together means breaking the tensions between the global and the local, that is, gradually becoming a citizen. Learning to live together is learning to live together, learning to live in peace, learning to be good citizens, which is why it is considered to be the main undertaking of contemporary teaching, education and socialization (Delors et al., 1996).

Competence to learn is the ability of an individual to take charge of his or her own learning throughout life. It involves cognitive and emotional processes that are developed since childhood and act as a basis for social and motor skills that make it competent to perform successfully in different contexts with criteria of autonomy and efficiency, sustaining lifelong learning. However, it also involves the conscious management of skills (Marín Ortega, 2008; Moreno Hernández and Martín, 2007; Salmerón Pérez and Gutiérrez- Brajos, 2012; Recommendation 2006/962/EC of the European Parliament).

The European Commission (2007) defines competence to learn as the ability to initiate and organize learning, manage time and information effectively both individually and in groups. It involves processes such as assessment of specific learning needs, goal setting, choice of specific strategies and monitoring of learning towards the acquisition of desired objectives. From an integrative approach, it is conceived holistically and comprises the contents or areas of knowledge, together with the core skills and generic skills. In a generic sense, it implies the recognition of common skills that explain variations in different performances by differentiating between more/less effective individuals with respect to those singular characteristics (Moccio and Difabio de Anglat, 2019).

The competence to learn integrates the concept of self-regulated learning (Panadero, 2017; García -Ros and Pérez-González, 2011; Zimmerman, 2000; Zimmerman and Kitsantas, 2007); this learning is characterized by the presence of motivation plus the use of cognitive and meta-cognitive strategies emphasizing the integration of its different elements, effective execution and knowledge transfer. Emphasis is placed on the need for the student to become an autonomous being, to know his cognitive processes and to learn to control his learning process. This new learner should not adjust to acquiring the knowledge provided by others, but should build it personally and manage it based on his or her previous experience. Therefore, teaching must be student-centered: it is the starting point, the center and the end, and must help the student learn to learn to learn, and to learn to think (Torrado et al., 2017).

With regard to its definition, different authors relate learning competency to the disposition of each person to mobilize knowledge, skills and attitudes, to generate their own learning and to regulate it throughout life, in accordance with their needs, resources and

objectives (Moreno Hernández and Martín, 2007; Coll, 2010; De la Fuente, 2010). They recognize the generic and transversal nature of this competency and how it is in itself a prerequisite for the development of the other competencies, so that those who can develop it will be in a better disposition to face new learning. From an integrative approach, it is conceived holistically and comprises the contents or areas of knowledge, together with the core skills and generic skills. In a generic sense, it implies the recognition of common skills that explain variations in different performances by differentiating between more/less effective individuals with respect to those singular characteristics (Moccio and Difabio de Anglat, 2019).

Gargallo López et al. (2020) emphasize their importance for learning in formal, non-formal and informal contexts and stress the motivation and curiosity of students to learn. They emphasize reflection and awareness of one's own learning process by planning, monitoring and evaluating one's own performance. Among the central components involved in the process of learning to be a competent learner are cognitive, metacognitive, motivational, emotional and affective (Coll et al., 2012).

The vast majority of research conducted on learning competency concludes that its role in the training process is key in that it enables future professionals to continue learning throughout their lives, and thus be able to respond to the demands of a knowledge and information society characterized by a dynamic of permanent change. Several authors have defined the construct of competence to learn from various perspectives and have constructed mechanisms and instruments that allow its assessment (Carretero and Fuentes, 2010; Jonet-Melía et al., 2012; Martín and Moreno, 2007; Villardón-Gallego et al., 2013).

The theoretical model presented here is made up of four dimensions: personal knowledge as a learner, knowledge construction, knowledge transfer and self-management of learning (Villardón-Gallego et al., 2013).

Personal knowledge as a learner implies knowing oneself from one's capabilities, skills and personal limitations that may hinder learning. It is a strategic knowledge in which one is aware of one's own learning process (Deakin-Crick et al., 2004). On the other hand, Pozo and Monereo i Font (2010) argue that a competent learner will be more efficient in learning to learn when faced with a task and when he/she is able to decide autonomously what he/she should learn and when he/she is able to review during the learning process whether or not he/she is approaching the goals set. Both positions complement each other in that they involve cognitive, metacognitive, volitional and motivational aspects involved in effective learning, whether declarative, procedural or attitudinal. This personal knowledge is directly associated with the possibility of evaluating one's own performance in a task and improving it. It takes into account the way of processing information by estimating the student's ability to identify their study habits (Muñoz-San Roque et al., 2016).

The construction of knowledge is based on the conception that all knowledge is constructed from previously acquired knowledge, being the subject the one who constructs the knowledge. The construction of knowledge demands taking a few more steps such as distinguishing the appropriate information from among the much available, considering various sources for comparison while being aware of the possibility of ideological biases and/or interests existing in the various sources, discerning, examining the information thoroughly, appreciating it critically, integrating it in a meaningful way in the cognitive structures making it one's own, and using it effectively for life. Knowledge is much more than information. This is the raw material for building knowledge, but it requires an added effort (Gargallo López, 2012). Both the selection and the organization of information are important strategies to be put into play within the knowledge to be built, in order to achieve true learning. These strategies strengthen knowledge selection and knowledge utilization (Villardón-Gallego et al., 2013; Villardón-Gallego, 2015).

The third dimension is the transfer of learning, based on the concept of transfer by Ruiz (2002), who defines it as the process by which the person transfers the knowledge constructed, whether these are operations or strategies, to use them in new situations, whether in the daily or school context. Likewise, the transfer of learning refers to declarative, procedural or even attitudinal knowledge. Contextual or near transfer can be considered when a knowledge is applied to similar situations and far transfer-when knowledge is applied to situations different from those in which it was acquired (Salmerón, 2013). Transfer allows learning in new situations, distinguishing similarities and differences in the proposals (Singley & Anderson, 1989; Tuomi-Grön & Engeström, 2003; Villardón-Gallego et al., 2013).

The fourth dimension is self-management of learning, which refers to the individual's capacity to plan, develop and evaluate his or her learning process. It aims at autonomy in learning, understood as the situation in which the student is in charge of his own learning, monitoring his academic and motivational objectives, managing human and material resources and taking them into account in the decisions and performance of all learning processes (Bandura, 1977). In conclusion, self-management of learning is understood as that in which the student plans, controls and evaluates his or her own learning by meeting academic and motivational objectives using strategies, human, material and technological resources (Núñez Naranjo et al., 2021).

It is worth mentioning that the competence to learn has been carried out and studied throughout the world, however, always associated with university students, but in Argentina is where the first adaptation was carried out for police personnel, which allowed an in-depth look about that population (Villardón-Gallego et al., 2013; Aguilar Rivera et al., 2020).

The present work was aimed at improving the training of police personnel, taking into account the competence to learn, its results and its differences in relation to the dimensions of the scale presented.

General Objective

To know the competence to learn in police officers of the Province of Buenos Aires, Argentina.

Specific objectives

Describe the competence to learn in police officers according to gender differences.

To know how participants are grouped according to the dimensions of the Competence to Learn scale

Validate and adapt the Competence to learn scale for police officers.

Method

Design

Cross-sectional, retrospective and ex-post facto with a single group and multiple measures. An analytical survey was administered with a non-probability purposive sample.

Participants

The sample consisted of 524 police officers from the Province of Buenos Aires. Forty.6% were female (213) and 59.4% male (311), with ages ranging from 19 to 52 years (mean 31.6 and standard deviation 10.18). Active duty personnel were included, who were taking the annual police training course and pursuing tertiary and university studies at the time the battery was taken. Excluded were those over 60 years of age, personnel not undergoing university/tertiary training, personnel who had not completed the annual training course, police personnel on medical leave (physical and psychiatric), maternity leave and vacation leave.

Instrument

The *Competence to Learn* scale (Villardón-Gallego et al., 2013) consisting of 17 items with a five-option Likert-type response continuum where 1 = *strongly disagree* and 5 = *strongly agree* was used.

This same instrument with 17 items was validated in Argentine university students (Aguilar-Rivera et al., 2020). These items make up the four subscales defined by the authors: self-management of learning (8 items, Cronbach's alpha .77), knowledge construction (4 items, Cronbach's alpha .69), personal knowledge as a learner (3 items, Cronbach's alpha .60) and knowledge transfer (2 items, Spearman-Brown coefficient .53). Cronbach's alpha for the total scale was .85.

Five items were added for the security personnel scale in the two subscales personal knowledge as a learner and knowledge transfer to balance the scale. Following the corresponding statistical tests for its validation and adaptation to security personnel, the scale was reduced to 14 items, becoming more parsimonious and balanced with the 4 previously defined subscales. Cronbach's Alpha for the total scale is .81, being for self-management of learning .66 (3 items) for knowledge construction .64 (3 items) for personal knowledge as a learner .62 (4 items) and for transfer of learning .73 (4 items).

Procedure

The chief in charge of the training centers was contacted to request authorization for access to security personnel. In order to reach a broader and more heterogeneous sample, data were collected in person by providing photocopies of the questionnaire. They were given an average time of 30 minutes to perform it. Although the questionnaires were taken within the framework of the training that security personnel undergo at the provincial police training centers, participation was voluntary and anonymous and the responses were collected over a period of three months. Before starting the questionnaire, participants read the header with the informed consent, which complies with the guidelines for ethical behavior in the Social and Human Sciences established by the National Council for Scientific and Technical Research (CONICET) of Argentina (Res. D. No. 2857/06), in which they were informed about the purposes of the investigation.

Data Analysis

The factorial validity of the scale was studied through structural equation modeling using the unweighted least squares (ULS) method. The goodness-of-fit index (GFI), the adjusted goodness-of-fit index (AGFI), and the root mean square standardized residual (SRMR) were analyzed. We worked on the basis of the original model, which presents four interrelated dimensions. Reliability was analyzed using Cronbach's alpha. Descriptive statistics were applied to explain the level of learning competence of the sample, seeking means and standard deviations. To compare the scores in each of the dimensions of the scale, a repeated measures Anova was calculated, applying the post hoc Bonferroni. The Student's *t* test was used to determine the differences according to sex. The objective of the cluster analysis was to search for similar groups of variables or individuals that were grouped into clusters. Its purpose was to classify the individuals so that those that are most similar to each other are grouped together and the groups obtained are as different as possible. On this occasion, a K-means cluster analysis was applied, using SPSS version 25 and AMOS 5.
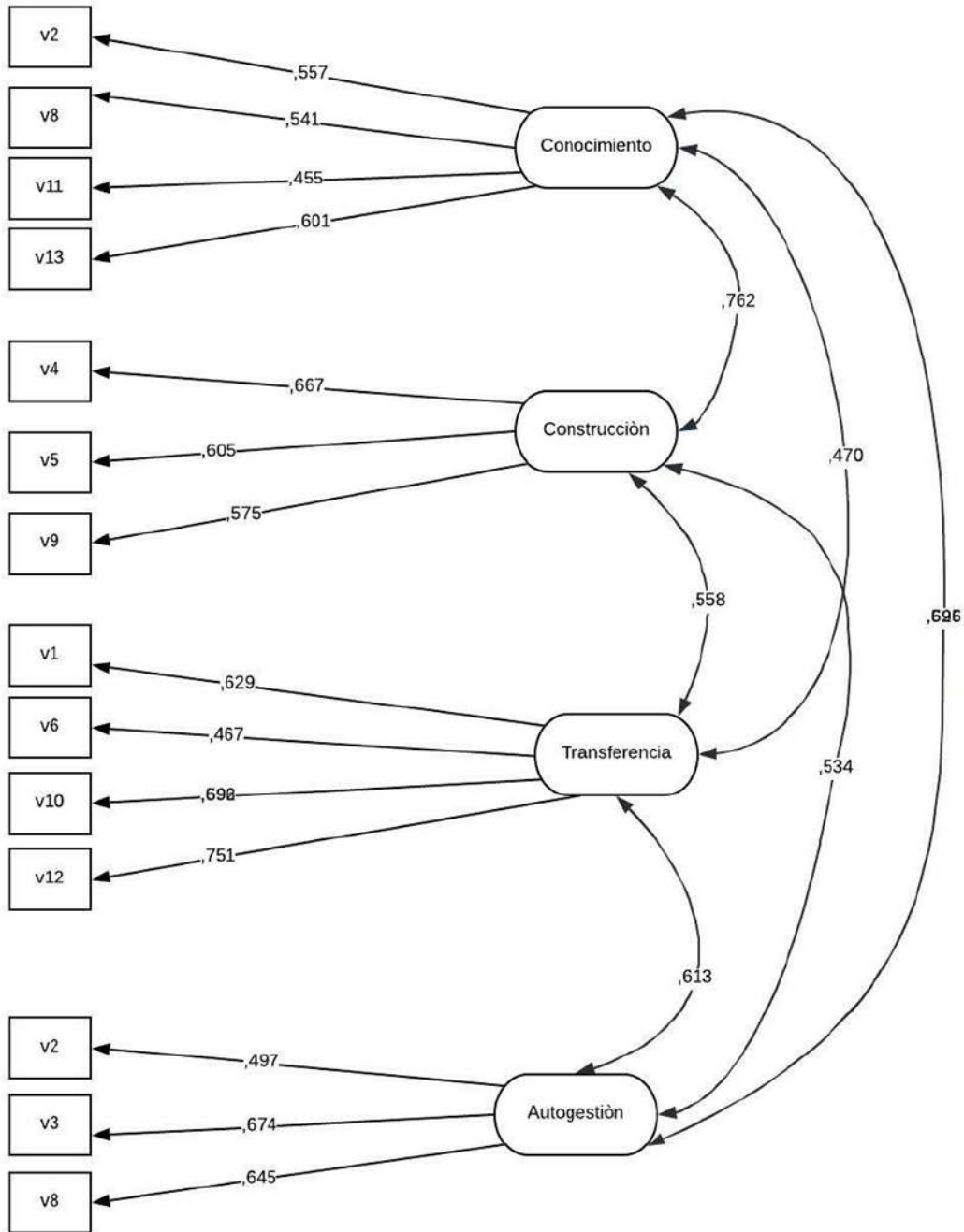
Results

Factorial validity of the scale

The scale presents adequate goodness-of-fit indices GFI = ,95; AGFI = ,95; SRMR = ,07. This is illustrated in Figure 1.

Figure 1

Confirmatory factor analysis of the Competence to Learn scale (n = 524).
Goodness of Fit Indexes GFI= .95 AGFI= .95 SRMR= 0.07

Competence to learn in participants

The results obtained by the security agents who participated in this study show that the dimension with the highest scores is *Transfer of Learning*. *Knowledge Construction* is the dimension with the lowest score (see Table 1). Mean differences among the four dimensions are significant $F_{(6.696)} = 1162,93$, $p = 000$, $\eta^2_p = .91$

Table 1

Means for the four dimensions of Learning Competence

Dimension	N	Minimum	Maximum	Media	DE
Total Learning Competence	5 24	1	5	2.81	0,31
Self-management of Learning	524	1	5	2.45	0,38
Transfer of Learning	524	1	5	3.37	0,46
Knowledge Construction	524	1	5	2.40	0,41
Knowledge as an Apprentice	524	1	5	3.02	0,45

The *K-means* cluster test is a tool designed to assign cases to a fixed number of groups (clusters) whose characteristics are not yet known but are based on a set of specified variables.

The participants were grouped into four clusters whose similarities and differences are shown in Table 2.

Cluster 1 has 159 individuals, who present a high level in the *transfer of learning* and a medium level of *personal knowledge as a learner, knowledge construction and self-management.* It is estimated that these participants are able to access the academic content and present a performance in accordance with the situation presented, since the four dimensions are found with a good performance.

Cluster 2 with 121 individuals and cluster 3 formed by 115 agents stand out in having high *personal knowledge as a learner* and *transfer of learning*. At the middle level is the *construction of knowledge and self-management*. These individuals show knowledge of how they learn best and what strategies to use and know how to apply what they have learned in other academic situations. The results of the means of Cluster 2 are the highest when compared to those of the other three clusters. The results of cluster 4 are the lowest when compared to those of the other three clusters.

Cluster 4 is formed by 129 people with a medium level in *personal knowledge as a learner, knowledge construction and self-management* and a low level in *knowledge construction*. These participants require specific work that accompanies them in the different dimensions of learning competence, but with greater attention to the construction of knowledge.

Table 2

Cluster Analysis

Dimensions	1	2	3	4
Knowledge	2.82	3.47	3.23	2.64
Construction	2.43	2.77	2.53	1.89
Transfer	3.63	3.80	3.00	2.98
Self-management	2.45	2.86	2.33	2.19

* low; * medium; * high
Source: Own elaboration

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The *Student's t-test* was applied to study the differences according to gender and showed that they were not significant (Table 3).

Table 3

Differences in the dimensions of learning competence according to gender

Dimension	Sex	N	Media	DE	T
Total Learning Competence	male	311	2.81	0,32	*t* (522) = ,359; *p* = ,595; 95% CI -,89;1,30
	woman	213	2.80	0,30	
Self-management of Learning	male	311	2.47	0,38	*t* (522) = 1.34; *p* = ,331; 95% CI -.10; ,55
	woman	211	2.43	0,37	
Knowledge Transfer	male	313	3.37	0,46	*t* (522) = -.009; *p* = ,881; 95% CI -.41; ,40
	woman	211	3.37	0,46	
Knowledge Construction	male	311	2.40	0,41	*t* (522) = -.128; *p* = ,912; CI 95% -.38; ,33
	woman	213	2.40	0,40	
Knowledge as an Apprentice	Male	311	3.02		*t* (522) = -.002; *p* = ,849; 95% CI -.39; ,39
	Woman	213		0,46	

Discussion and conclusions

Finally, the central objective of this research, with police officers from the Province of Buenos Aires (Argentina) was to validate and adapt the Competence to Learn Scale, an original instrument designed and validated at the University of Deusto-Bilbao (Villardón-Gallego et al., 2013). Following the guidelines regarding the use of questionnaires in other contexts and reaffirming the need to use in our population those that are adapted (García -Ripa et al., 2018) such scale was first validated and adapted for Argentine university students (Aguilar-Rivera et al., 2020). On that occasion, 940 students from different provinces of the territory and from both private and public institutions were invited to participate. This version adopted the structural model of four interrelated dimensions: self-management of learning, knowledge construction, knowledge as learner and transfer of learning. We can say that the model meets the reliability and validity requirements by obtaining a Cronbach's alpha index of .85 and goodness-of-fit indices that are considered very adequate, CFI .98, AFGI .98 and SRMR .04. These indices are also appropriate for females as well as males.

With the purpose of evaluating the competence to learn in police officers attending the Police Training and Qualification Center, five more items were elaborated for the dimensions Transfer of Learning and Personal Knowledge as a learner, leaving a survey of 22 items, seeking a more balanced scale with more balanced dimensions. Based on the statistical tests, the scale was made up of fourteen items, making it more parsimonious and balanced. It was named Competence to learn in security personnel and the structural model of the four dimensions was

adopted. Said scale presents acceptable fit indices (GFI = ,95; AGFI = ,95; SRMR = ,07) and a reliability coefficient, Cronbach's Alpha for the total scale is .81, being for transfer of learning .73 (4 items) for self-management of learning .66 (3 items) for knowledge construction .64 (3 items) and for personal knowledge as a learner .62 (4 items).

This competence has been studied by several research groups internationally (Aguilar-Rivera et al., 2020; Gargallo López et al., 2020; Jerónimo-Arango and Yániz, 2017; Jornet-Meliá et al., 2012; Villardón-Gallego et al., 2013) given the importance of its development at both personal and professional levels. With respect to the profile of these participants, no differences were found, according to gender, in the means of learning competency.

The *Transfer dimension of learning* is the highest, it shows that what is learned is used in other situations, transferring previously acquired knowledge in concepts, operations, strategies, attitudes, abilities, principles and skills. It is a dynamic and progressive process. It may demand more than one instructional session, may require specific techniques, or may be expressed in other ways beyond knowledge acquisition, such as increasing the speed of learning a new domain (Singley & Anderson, 1989).

The most descended dimension is *Knowledge Construction*, being the selection and organization of information the most important strategies to be put into play within the knowledge to be built, in order to achieve true learning. These strategies strengthen knowledge selection and utilization. It is right to ask how to help students construct their knowledge, bearing in mind that the construction of knowledge aims at the subject not only assimilating new information to his or her previous cognitive schemas, but also to carry out an intentional reorganization of those schemas, that is, a reconstruction to adapt them to the new information.

The purpose of studying individuals in groups for their similarities and differences (Bisquerra, 1989) is to determine the characteristics of these groups with respect to learning competence. In this way, teachers and trainers will implement programs to make students, in this case security officers, more competent to learn on a daily basis and take charge of their own lifelong learning. Training is a process that enables the trainee to appropriate certain knowledge, capable of modifying the behavior of individuals and the organization to which they belong. The elaboration and implementation of curricular designs of the competence to learn, taking into account the profiles of the groups to be trained, will provide teachers with tools to incorporate them in the contents to be learned and to specify teaching methods and evaluation procedures closer to the reality of the students. Focusing on the clusters, the 129 participants (cluster 4) present three dimensions at medium level (Self-management, Personal knowledge as a learner and Transfer of learning) and one at low level (Knowledge construction). This group presents, with respect to the other three, the lowest level of the dimensions studied. Clusters 2 and 3 present high levels of *Personal knowledge as a learner* and *Transfer of learning*, so from personal knowledge they are able to self-evaluate as they perform their tasks and therefore rectify strategies, in addition to the ability to transfer learning to other concepts. Cluster 1 (159 individuals) present a high level in *Transfer of learning* and medium levels in *Personal knowledge as a learner, Self-management and Construction of knowledge*. It is estimated that the 1,2 and 3 will show good academic results and generally good performances.

It is worth highlighting the challenge posed by competency-oriented teaching, which highlights the need to enable new modes of teaching and assessment (Jornet-Meliá et al., 2012). This competence presents specific connotations, we are aware that, being generic, it has as such a clear transversal component integrating common elements for all students of all degrees, but it also has connotations derived from the singularity of the different university studies making necessary a further work of concretion for its effective teaching and learning. The adaptation of competency-based assessment techniques in the training field is undoubtedly a good opportunity to enhance the involvement of students in their learning process and professional improvement, as well as to bring the professional reality closer to the academic field: the

student obtains feedback on their strengths or weaknesses, in relation to the competencies assessed, and can establish a program for professional improvement and development. The application of these techniques to the field of training is one of several opportunities to work with this methodology; however, as mentioned above, there are many other reasons for the public and security sector to adopt and adapt this work approach or evaluation model (Solé Sanosa, 2003).

Studies have advanced the conceptualization of learning competence as an integration of different elements that favor effective performance throughout life in the different learning situations that arise (Salmerón and Gutiérrez, 2012). To be competent to learn is to be able to face challenges and changes in the future by learning throughout life

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