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Executive functions of higher education entrants: Case Bilingualism degree program with emphasis on English

Funciones ejecutivas de los ingresantes a la educación superior: Caso programa de Licenciatura en Bilingüismo con énfasis en inglés

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ABSTRACT

This article shows the main findings of a research project to study the executive functions of new students entering a bachelor's degree program in Bilingualism in the face-to-face teaching process. It was aimed at analyzing the state of the administrative tasks of new students entering the program in a university institution in Cartagena (Colombia) during 2022 and 2023. This research was conducted from a mixed approach of descriptive scope involving quantitative techniques and instruments, EFECO self-report test, and qualitative through the focus group technique. The data processed allowed for the identification of the profiles of executive functions in the sample examined. These results point to the need for reinforcement that students should strengthen their emotional skills for planning, initiative, and working memory training. The data analysis pointed to a tendency to procrastinate and need to remember what they have learned after completing the assessments. The evidence suggests that students are conditioned to put their executive functions into action and in specific situations. The results highlight the need to design a strategic plan to develop administrative functions adequately and contribute to good performance in university life.

Keywords: higher education, neuropsychology, study service, teaching practice.

JEL Classification: I20, I23

RESUMEN

Este artículo muestra los principales hallazgos de un proyecto de investigación para el estudio de las funciones ejecutivas de los estudiantes de nuevo ingreso a un programa de Licenciatura en Bilingüismo en la modalidad presencial del proceso de enseñanza. El mismo se dirigió al análisis del estado de las funciones ejecutivas de los ingresantes a dicho programa en una institución universitaria en Cartagena (Colombia) durante 2022 y 2023. Dicha investigación se realizó desde un enfoque mixto de alcance descriptivo que involucró técnicas e instrumentos de carácter cuantitativo, Test de autorreporte EFECO, y cualitativo mediante la técnica de grupos focales. Los datos procesados permitieron identificar los perfiles de las funciones ejecutivas en la muestra examinada. Estos resultados apuntan a que se requiere un reforzamiento que los alumnos deben reforzar sus habilidades emocionales, para la planificación e iniciativa, así como un entrenamiento de memoria de trabajo. El análisis de los datos apuntó a que existe tendencia a la procrastinación y al olvido de lo aprendido luego de cumplir con las evaluaciones. Las evidencias sugieren que los estudiantes están condicionados para poner sus funciones ejecutivas en marcha y en situaciones específicas. Los resultados resaltan la necesidad de diseño de un plan estratégico para el adecuado desarrollo de las funciones ejecutivas y contribuir al buen desempeño en la vida universitaria.

Palabras clave: enseñanza superior, neuropsicología, práctica pedagógica, servicio universitario.

Clasificación JEL: I20, I23

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INTRODUCTION

There is a set of cognitive and metacognitive skills that allow organizing and planning daily activities, as they inhibit distracting elements that may hinder the achievement of accomplishments and the process of social interaction (Menon & D'Esposito, 2022). These skills are referred to as executive functions (EF) in the clinical literature, although they can also appear as cognitive control (Salehinejad et al., 2021). Although genetically determined, their development is also influenced by social or contextual interaction (Doebel, 2020; Santamaría-García et al., 2020; Schulte et al., 2022). They favor the processes of adaptation to changes or demands in different spheres of daily life (personal, social, educational, professional, or occupational), as well as in general health and well-being (Di Tella et al., 2020; Holt-Lunstad, 2022; Powell-Wiley et al., 2022).

The concept of EF is considered to have emerged between the 1960s and 1970s in the field of neuroscience. According to Muriel Lezak, EFs are structures similar to capacities, as they are projected into activity as functions and allow the conduct of processes in an autonomous, voluntary, and goal-oriented manner (Lezak, 1982). Specifically, Lezak (1982) proposed that EFs could be considered mental capacities that intervene in identifying, defining, planning, and achieving objectives so that the planning of individual and social life had them as support.

For their part, another group of authors expand this perspective and establish that EFs are a set or sets of processes whose main task within the psychic apparatus is the regulation and control of functions that are not exclusively cognitive but extend to the emotional and behavioral (Gioia et al., 2017). The main additional feature is that these processes are directed to the solution of novel problems or appearing in unfamiliar circumstances, which may be determined by different personal and environmental aspects (Bredemeier & Miller, 2015; Wang et al., 2021; Wardle-Pinkston et al., 2019).

The relationship between academic performance and EF has been addressed by multiple authors and from different perspectives (Cortés Pascual et al., 2019; Lee, 2023; Rey et al., 2020). For example, a study conducted at a university in the Netherlands with a sample of n=1769 argues that first-year students with the diagnosis of a higher development of their EF obtained better academic results (Baars et al., 2015).

Other similar studies, while acknowledging the relationship and building on it, demonstrate that social development conditions specific EFs that predict academic performance, such as working memory, but in linkage with parental education and other factors related to upbringing, education, and environment (Ahmed et al., 2023; Laureys et al., 2022; Waters et al., 2021). These examples point to the complex relationship between the internal and external in the development of EFs and their impact on people's lives and learning.

In the specific case of the importance of EFs in the study of phenomena such as learning and reading comprehension in bilingual contexts, several studies show their participation in the regulation of these processes, as well as the consequences of their inadequate development (Kieffer et al., 2021; Weaver & Kieffer, 2022). These results point to the need to consider EFs in the design of curricular programs and learning environments.

Within the extensive literature on the subject, eight executive functions are recognized: inhibitory control, cognitive flexibility, emotional control or self-regulation, initiative, working memory, planning, organization, and monitoring. These may vary according to the authors and their studies, but they illustrate in a general sense the neurological substrate to be examined. The EFs have been defined by the National Center for Learning Disabilities (2013) as follows:

Table 1.
Definition of EF

FE	Definition
Inhibitory control	Ability to think before acting and control impulses
Emotional control	Ability to self-regulate emotions and maintain goal-oriented behavior
Planning	Ability to operationalize an objective in steps or phases and make decisions according to priorities or hierarchies.
Cognitive flexibility	Ability to adapt to changes, modify strategies and behavior to achieve new plans.
Working memory	Ability to store and process information in the completion of a task.
Monitoring	Ability to monitor and evaluate own performance.

Initiative	Ability to initiate an action at the right time and avoid procrastination.
Organization	Ability to create and maintain a system for tracking information and materials.

Source: elaborated from National Center for Learning Disabilities (2013).

Any serious alteration of these cognitive and metacognitive skills that reduces the ability to learn and interact socially effectively is called "executive dysfunction." These impairments manifest themselves in behavioral alterations such as poor empathy, behavior rich in stereotypes and routine tendencies, limited sphere of interests, disproportionate reactions to environmental stimuli or without apparent cause. Individuals with damage to executive functions show difficulties concentrating and maintaining attention; organizing plans, sustaining them over time, and executing them adequately; poor and poorly regulated affectivity; creative limitations; among other problems that affect their daily lives.

Although the study of EFs began in the area of neuropsychology, with time, pedagogues began to actively study their influence on phenomena as complex as students' performance and academic success. Therefore, the contributions of executive functioning theory have been embraced in the educational field and used to achieve a better understanding of the processes of teaching, learning, attention to SEN and specific populations.

EFs foster creativity and the development of socioemotional competencies that allow students to conduct themselves satisfactorily in the classroom and other social spaces. For several authors, it is essential to address EF in education since their adequate attention and training favor the development of fundamental skills in school learning, but also for life, as well as having an impact on the quality of both (Cabanes Flores et al., 2023; Cabanes-Flores et al., 2018).

From the educational field, it is understood that these functions constitute control processes that help the cognitive and behavioral regulation of people, which facilitate decision-making and problem-solving for the achievement of goals (García Gómez, 2015; Martin-Requejo et al., 2023; Meltzer, 2010; Miyake & Friedman, 2012). It is considered, then, that the development of executive functions impacts academic performance or achievement in such a way that, if these have not been strengthened, children and young people could experience difficulties in their studies.

In a previous study, Orozco and Pineda (2020) conducted an evaluation of EF in university students who exhibited measures classified within the low and high performance in literacy processes in Colombia. This research sought to identify the participation of neurolinguistic processes in performance so that causes and consequences of the affectation in EF could be diagnosed. From their experiment with an X group and control group design, they were able to observe the appearance of a significant difference in the development of EF between subjects with low and high-performance measures, which were attributed to executive dysfunction and its manifestation in cognition, emotional regulation, and affective development, as well as in the behavior associated with daily life and literacy specifically.

Other studies conducted in Colombia highlight the relevance of analyzing EF as skills that can be educated and its association with contextual variables. For example, Tamayo et al. (2019) studied the EFs of eleventh-grade students in Colombian public schools and concluded that the social and educational context in which the adolescent is found and conditions such as parental schooling and gender influence the development of EFs, which has been contrasted in international studies.

For their part, González & Barreto (2020) characterized the EFs of ninth-grade adolescents from an educational institution in Bucaramanga (Colombia) and concluded that it is necessary to work on the premise that EFs can be trained. This idea is equivalent to developing educational skills conceived in an academic program and requires necessary curricular and teaching updates (Poletti, 2020; Vita-Barrull et al., 2023). These postulates, which also point out the importance of the multidisciplinary space in which they should be addressed, are fundamental, as they highlight the broad pedagogical and didactic possibilities as long as they are based on technically and gnoseologically reliable clinical diagnoses.

Brief description of the research project

Considering the scenario presented, the research's general objective was to analyze the state of the executive functions of students entering the bachelor's degree program at a university institution in Colombia. The final purpose of the experience was to generate sufficient data to support the development of pedagogical alternatives for

improving the teaching-learning process in a bilingual context. In addition, the goal was to elaborate the necessary postulates to guide initiatives that allow students to identify their behavior and emotions inside and outside the classroom in order to respond adequately to situations that arise in academic and social life.

The project urged to attend in an intentional and designed way to the adequate development of EF in first-semester students. Although it was presented as a stated goal that these students would be able to make adequate progress in all areas of the academic field, it was also intended that they would achieve a better performance in a safe and reliable environment for them.

In addition, this project sought to contribute to the integral formation of the students since it not only sought to strengthen knowledge and know-how but also being: by strengthening the behavioral and human dimensions involved in the EF, in accordance with the pillars of education (Delors et al., 1996). This contributed to the formation not only of competent professionals in teaching but also of integral citizens who contribute to the development of the country as a just and sustainable society, role models for future generations; which highlights the social importance of FE neuroeducation (Han et al., 2019).

METHODOLOGY

Design and scope

Taking into account the complexity of the subject of study, it was decided that the phenomenon in question (state of the EF) should be observed from different perspectives. Therefore, the research was inscribed to the mixed approach since it helps to approach the object of study from a more complete perspective, with greater methodological rigor and orientation to the production of generalizable knowledge as well as deep knowledge (Gunbayi, 2020; Harrison et al., 2020).

To describe the state of executive functions, the degree of their fulfillment through quantitative tools was required. In addition, the analysis of EFs required exploring the participants' metacognitive assessment of their cognitive and emotional abilities and assessing the learning process.

This decision was made based on two criteria. Firstly, because metacognitive reflection itself, in addition to its diagnostic value, entails a joint learning dimension that offers elements to be considered directly in the pedagogical alternatives to be implemented. Secondly, because the recommendation to qualitatively explore the perceptions and reflections of the subjects under study enjoys broad support in the international literature, especially in contexts or fields of study where standardized instruments and measurements are not available (de Boer et al., 2021; Guerra et al., 2022; McDougall et al., 2020).

In terms of its scope, this research was descriptive, as it sought to establish the fundamental characteristics of the state of the EF and, through its partial examination to develop the profile of the participants, a common goal in international studies due to its importance in ontological and comparative studies and its potential predictive value (Litkowski et al., 2020; Montuori et al., 2019; Operto et al., 2020). Precisely, the description of the component elements of EFs at the time of entering the Bachelor's program at Unicolombo (cross-sectional study) was intended. Finally, since we did not work with control groups and there was no intervention in the variables or in the course of the study situation, this project corresponds to a non-experimental design.

Participants

The study population consisted of students who entered the program's first year. However, only those who started the second academic period of 2022 and continued in the first period of 2023 were considered potential participants (N=178). In total, 121 students (between 17 and 25 years old) participated; the gender was distributed as 66.7% female and 33.3% male. This study sample was selected based on two key indicators: teaching experience on observable empirical data and the calculation of the sample size according to simple random sampling. First, the direct classroom experience has allowed us to observe that the transition to college is a difficult stage for students to habituate to if they do not have the necessary cognitive and socioemotional skills. Thus, early diagnosis will facilitate specialized psychoeducational and pedagogical attention, as well as the design and use of better tools to promote the development of EF at this stage.

Secondly, simple random sampling was conducted, with a maximum acceptable percentage point error of 5% and a desired confidence of 95%. Using Decision Analyst STATS 2.0 software, the sample was calculated to be 122

students; however, it was necessary to close the final sample due to the dropout of one participant (n=121). The remaining participants agreed with the research objectives and signed the informed consent form.

Data collection

The self-report test, called EFECO Scale, was initially applied to the sample. An adaptation of the proposal by Ramos et al. (2016) and García Gómez (2015) was used, the former being based on the latter. This decision was made as a function of having primary sources for the comparison of the results and because of its sensitivity to subjects at the stage of development to which the participants belonged.

These students provided concrete data on the validity and reliability of the instrument. In addition, the items were used in the generation of indicators for the development of the focus groups, which were taken from a smaller sample as will be explained later, as can be seen in Table 2, which presents the conceptual fusion of both elements (items and indicators).

Table 2.
Indicators for the study of EFs

FE	Conceptual indicators
Inhibitory control	- Difficulties in regulating behavior and discursive expression of thought. - Difficulties in regulating motor activity. - Difficulties in sustaining appropriate interactions with others (active listening, speech). - Appearance of anticipatory doubt about possible consequences of actions.
Emotional control	- Affective lability and difficulties in responding appropriately and proportionately to environmental stimuli.
Planning	- Difficulty/easiness to generate adequate plans for goal achievement. - Erratic performance of tasks or actions due to poor anticipation of conditions. - Emotional response to difficulties generated by poor planning.
Cognitive flexibility	- Ability to admit mistakes, develop new plans or paths and accept new circumstances. - Ability to adjust to new activities, proposals and adjust behavior.
Working memory	- Difficulty processing instructions quickly. - Difficulty maintaining voluntary attention during long tasks. Difficulty in completing tasks due to forgetfulness.
Monitoring	- Need for help and/or supervision to perform tasks of long duration or large number of components. - Appearance of errors in the execution of actions due to carelessness. - Slowness and effort in daily life tasks. - Difficulty in regulating social relationships and behavior in these contexts.
Initiative	- Autonomy/heteronomy in decision making. - Autonomy in the development of plans and problem solving.
Organization	- Difficulty in taking care of belongings, work spaces or daily life. - Difficulty in performing tasks due to poor organization of available resources.

Source: elaborated from Ramos et al. (2016)

Procedure

The EFECO test, in its self-report version, was administered to the entire sample, with a Likert scale of frequency for responding to each item of the test. Each frequency was given a score between 0 and 3 as follows: never (0), sometimes (1), frequently (2) and very frequently (3). Taking into account the way the test items are worded ("It is difficult for me to keep my attention on an activity", "I am easily distracted", etc.), the answers "Never" and "Sometimes" have positive meanings, and it is estimated that in this case, the students have a full development -since they never present problems with the executive function targeted by the items- or to a high degree, since they only sometimes have difficulties. Meanwhile, the responses "Frequently" and "Very frequently" have a negative meaning and reflect a deficient development in the function in question -because they frequently present difficulties- or very deficient -because they present difficulties very frequently-.

Additionally, as part of the qualitative work, two focus groups were conducted with ten (10) students each to learn about their perceptions of their own behavior and mental abilities. The purpose of this technique was to corroborate or complement the results of the EFECO test and, from there, to have a clearer profile of the problems studied. The students in the focus group agreed to participate voluntarily in the dialogue moderated by the research team.

RESULTS AND DISCUSSION

When applying the EFECO test, it was obtained, in general, that the ability to monitor and evaluate one's own performance was a strong point. The measurement of the FE monitoring obtained 60.70% of full compliance, i.e., that most of the students had not presented difficulties in metacognition. These results are completed by 33.42%, who presented a development of this function to a high degree since they answered that they only sometimes have difficulties doing all their homework without stopping or properly performing tasks that have more than one step.

This means that the first-semester students studied are able to skillfully perform activities that require a great investment of time and actions without constantly needing someone to supervise them. This is positive since, judging by the data processed, various activities that require autonomous work can be proposed to said group.

Another function that reflects good development, with 57.72% of full compliance, is the organization of materials. Defined as the ability to create and maintain a system for tracking the materials needed to fulfill the task, this EF is fundamental in most university processes and teaching and extra-teaching activities.

According to the items corresponding to this function, the students did not struggle to collect and leave their belongings tidy or quickly find their materials when needed. The 33.33% responded that they only sometimes have difficulties in this sense, a result that was evaluated as favorable. This executive function is followed by that of inhibition, which, with 56.02% of full compliance, indicates that most students, although they initially experience anger at insults or malicious comments, try to handle the situation in the best possible way to avoid conflict. In other words, these students do not do the first thing that crosses their mind but think before acting, which shows a greater development of self-regulation according to the usual characteristics of this age group, as well as a new adjustment to the role of university student.

36.59% responded that they only sometimes have difficulty thinking before acting, which reflects a high degree of development of this executive function. This was corroborated in the dialogue with the focus groups, where it was observed that these students tend to react according to the source of the malicious comment (whether related or not) and try not to encourage hatred:

Student 1. Focus Group 2: "I always try to respond to all that peacefully, and that has led, obviously, to have a better relationship with myself and also with my classmates. So, it seems to me that that should be the right way to respond to that because that is going to help us avoid conflicts."

Student 2. Focus Group 2: "Well, in my case, I try to ignore bad comments because it has already happened to me that I have tried to respond to them and it has made me feel bad about myself and also because of what I said to the other person, and made that other person respond worse, so, what I try to do is to ignore the comments to feel good about myself".

It should be noted that the students belonging to the groups under study (semester IA and IB) were very active during the semester in terms of participation, discussion, and anticipation of the study topics worked on in the class sessions. The academic results showed that during the study, homogeneity and development of critical thinking were achieved with defined positions on specific topics, which ratified the good state of their executive functions in general, as shown by the test.

Now, although there are high percentages in the three functions mentioned above, the situation of the rest of the students, who should receive the necessary tools to improve their functions, cannot be ignored. 5.87% have deficiencies with monitoring, 7.39% with inhibitory control and 8.94% with organization of materials.

In fact, some students expressly stated that it is relatively often difficult for them to inhibit certain impulses and that they may even say inappropriate things to other people:

Student 4. Focus Group 1: "I, on the other hand, am very impulsive. If they insult me, I also insult because if you are going to attack me, I also attack you". Although the percentages of deficient development of these functions

were considered low by the research team, it is necessary to work on it. It is necessary to recognize, in this sense, that the purpose of the Bachelor's degree program in Bilingualism is that all students develop their potential from the beginning of their career to be able to exercise later the role of integral trainers who help their own students in the classrooms.

In contrast to the previous functions, the EFs that presented higher percentages of deficient development are emotional control, planning, and working memory, which, according to Besserra et al. (2018) are the EFs that have the greatest impact on academic performance, conceptualized as the channeling of efforts based on achievements and the fulfillment of goals.

Regarding emotional control, 19.97% of the young people studied had deficiencies in self-regulating their emotions in pursuit of goal achievement; they also found it difficult to adapt to changes, more prominent if these were sudden. As mentioned before, there are also difficulties with working memory (13.01%), therefore, several have problems in managing information and concentrating or maintaining attention. This was ratified in the dialogue conducted in the focus groups where some students stated that they tend to forget constantly and have difficulty concentrating.

Student 1. Focus group. "Today, just today, I came out of an English oral exam in the morning, and my classmates asked me what they had asked me, and I had just come out, and I didn't even remember what the first question was. So I feel that I sometimes have a lack of short-term memory like Doris because I forget everything in an instant."

Student 6. Focus group 1. "(...) when I have done homework at night and stayed up until 01:00 in the morning doing homework, I have been able to concentrate better being alone. And there are many ways to be able to concentrate and not get distracted so easily, but that requires a process also of one as a person to put that into practice and that all these situations do not become like that".

Finally, there is the function of initiative, with 11.95% of deficient development, which means that it is difficult for them to be willing to start tasks or they tend to postpone the beginning of their activities; this goes hand in hand with the executive function of planning, in which 10.4% of the students acknowledged having difficulties. This indicates that several first-semester students find it difficult to plan their activities in advance; they tend to procrastinate or do the tasks rushedly and deliver them over the time limit.

Student 5. Focus group 1: "I work better under pressure. And I do it better (...), for example, I have from Monday to Friday and if it is for Saturday, on Friday I do it. Then I am crying".

Student 3. Focus group 2: "I have a lot of problems because of procrastination (sic) and, not only in academic duties, but also in personal duties. Before college, I had my hobbies to make up, and my type of income was to do work of any kind and even university work; the problem is that I am very bad at organizing myself and keeping schedules; then (...) I say that I am going to do it such a day and at such a time, but when such a day and such a time comes, I look for any excuse, I get distracted, or I forget, and I don't end up doing it and I end up accumulating all the work at the last minute".

Table 3.
EFECO test results

FE	Never	Sometimes	Often	Very often
Monitoring	60.70%	33.42%	4.88%	0.99%
Inhibition	56.02%	36.59%	5.85%	1.54%
Cognitive flexibility	50.14%	40.65%	7.99%	1.22%
Emotional control	37.05%	42.97%	15.21%	4.76%
Planning	47.20%	42.40%	8.80%	1.60%
Organization	57.72%	33.33%	8.13%	0.81%
Initiative	49.19%	38.86%	9.43%	2.52%
Working memory	47.48%	39.51%	10.08%	2.93%

Source: own elaboration

On the other hand, considering gender as a differentiating element, it was found that the executive functions related to behavioral regulation are similar in both sexes since they have a positive response regarding inhibition and

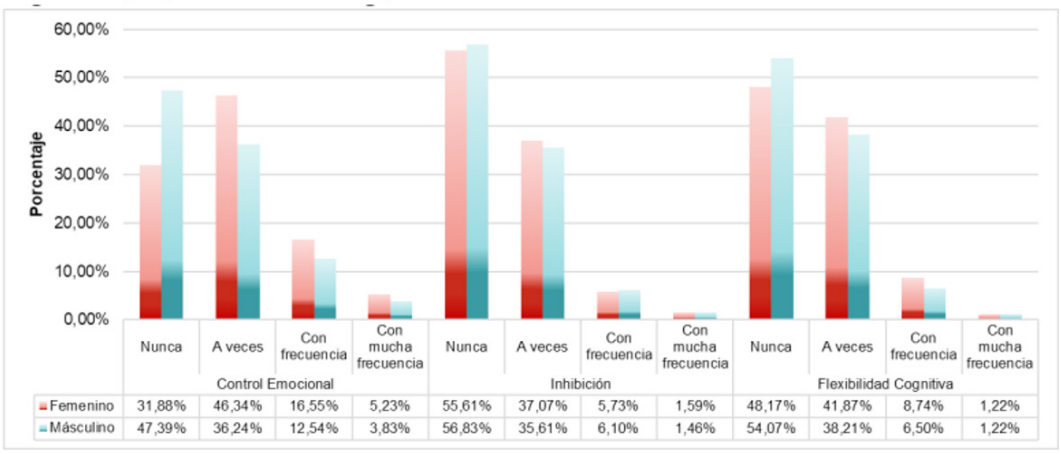
cognitive flexibility in the activities they perform. However, it was observed that emotional control is an executive function that requires special attention for female students since 21.78% of female students have deficiencies in developing this function. In fact, some of them stated verbatim in the focus group the reaction they have to outbursts and are emotionally reactive.

Student 3. Focus group 2: "Well, when they insult me, because I am a very expressive person, all my emotions show".

On the other hand, male students present a lower percentage of deficiency (16.38%); therefore, they tend to show a more rational or pragmatic attitude when faced with certain situations requiring a solution. This problem-solving orientation does not imply less development of affectivity, the data suggest, but rather a better regulation in certain tasks.

Figure 1.

Relationship of behavior according to sex



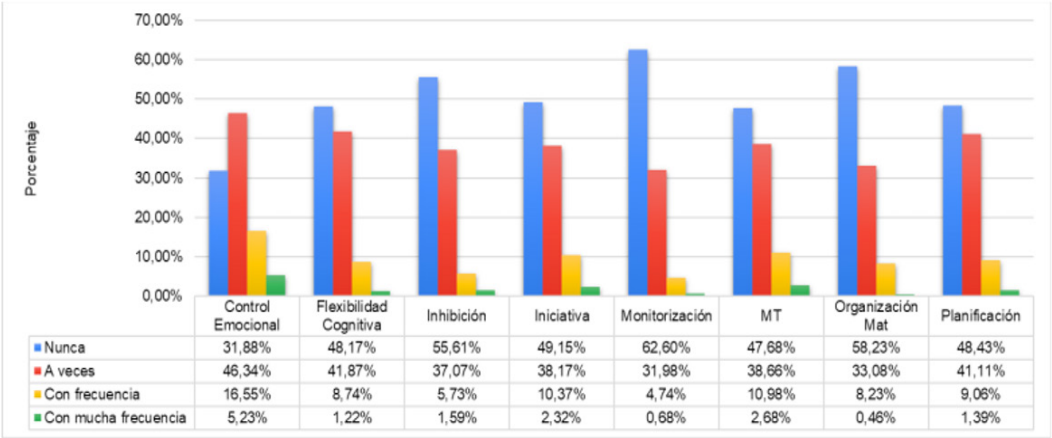
Source: Own elaboration

Note: the figure appears in its original language

As shown in figures 2 and 3, the students present strengths in the monitoring and organization of materials, i.e., they are able to carry out metacognitive processes and reflect on the contents, materials, and resources necessary to carry out an activity. This is ratified by the theory of cognitive development, from which Papalia et al. (2009) argue that the gradual development of executive function in humans -from infancy to adolescence- occurs in conjunction with the development of the brain, especially the prefrontal cortex. As the process of synapses becomes more effective and the myelination of neuronal connections extends, the speed of processing and reaction time improves notably, especially in girls.

Figure 2.

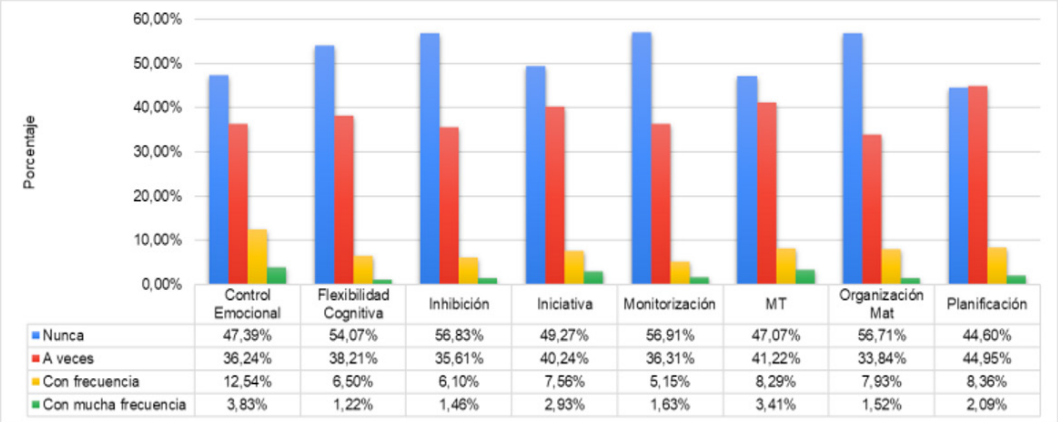
FE IN FEMALE STUDENTS



Source: Own elaboration

Figure 3.

FE in male students



	Control Emocional	Flexibilidad Cognitiva	Inhibición	Iniciativa	Monitorización	MT	Organización Mat	Planificación
Nunca	47,39%	54,07%	56,83%	49,27%	56,91%	47,07%	56,71%	44,60%
A veces	36,24%	38,21%	35,61%	40,24%	36,31%	41,22%	33,84%	44,95%
Con frecuencia	12,54%	6,50%	6,10%	7,56%	5,15%	8,29%	7,93%	8,36%
Con mucha frecuencia	3,83%	1,22%	1,46%	2,93%	1,63%	3,41%	1,52%	2,09%

Source: Own elaboration
Note: the figure appears in its original language

CONCLUSIONS

The study identified the profile of the executive functions of a sample of students who entered higher education. The data show that enhancing the development of emotional control, working memory, initiative, and planning in the sample studied is necessary. In addition, strengthening the decision-making process through the development of cognitive flexibility and initiative is necessary.

Other results extracted from the evidence are the conditioning exerted by the COVID-19 pandemic and its impact on students' responses to specific stimuli and scenarios. These conditionings appeared both in the educational and personal spheres.

It was possible to conclude that it is necessary to establish a system for the adequate diagnosis of EF from the first semester of the career, which would facilitate a better psycho-pedagogical diagnosis and specialized work to reinforce skills that are basic for an optimal development of professional competencies. Based on the evidence, the need to design and implement a strategy that, through teaching, extra-teaching, and extension activities, favors better academic and professional performance and promotes individual and social well-being is evident.

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