

## **Transversal competencies and risk factors associated with the dropout of Physiotherapy and Nursing students**

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### **ABSTRACT**

In recent years, higher education has emphasized competency-based training to adapt to national and international labor needs, which demands a transformation in educational roles. University dropouts, especially in health careers such as nursing and physiotherapy, have increased due to factors such as the lack of vocational guidance, socioeconomic conditions, and the COVID-19 pandemic. This study investigates transversal competencies and risk factors for dropping out in first-year students of these disciplines in a post-pandemic context.

**Keywords:** University dropout, Transversal competencies, Higher education.

### **INTRODUCTION**

In recent years, higher education has focused its efforts on the design of competency-based training programmes, with the aim of adapting these programmes to the needs of insertion both nationally and internationally. This holistic and inclusive approach to the environment requires a transformation of traditional roles in education (Cardoso, Cerecedo, & Ramos, 2019; Yáñez, 2020).

For health sciences students to successfully complete their studies and perform professionally, it is essential that they develop key competencies such as teamwork, critical thinking, decision-making, and the ability to adapt to changes. In addition, they must face internal and external factors that can influence the continuity of their career, such as socioeconomic conditions, family situation and academic performance.

However, in recent years an increase in university student dropout has been observed, so it has been interesting to explore the factors that cause such dropout (Cortés-Cáceres, Álvarez, Llanos, & Castillo, 2019). Dropout refers to the process of abandonment, voluntary or forced, of the career in which a student is enrolled, influenced by internal or external circumstances (Del Carmen, 2014). This phenomenon is multifaceted and significantly affects higher education, especially in health careers such as nursing and physiotherapy. Dropout implies not only a loss of educational opportunities for students, but also a significant economic and social cost for institutions and the country.

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Dropout in careers related to health sciences is also a critical problem. In the case of nursing and physiotherapy students, studies carried out in various regions have identified key factors that contribute to this problem, identifying that it has a multifactorial origin, mainly highlighting vocational, ethnic, gender, and economic factors, among others (Romero-Encalada et al., 2020; Ryan, et al. 2021). A high percentage of students choose these careers without sufficient knowledge of the profession or due to a lack of other options, leading to a high dropout rate. In addition, most students are financially dependent on their families, which aggravates the situation when financial conditions are not favorable.

Dropout is also influenced by a lack of adequate vocational guidance. The choice of a university career is a complex process that involves multiple factors, such as self-concept and the image of the career (Hidalgo Blanco, 2017). The lack of vocational guidance and the wide variety of career options also generate uncertainty and anxiety among students, which contributes to dropout and poor academic performance (Aguirre Zazueta & Ontiveros Herrera, 2024).

In the case of nursing and physiotherapy, intrinsic factors such as the desire to care and the sense of social usefulness are determinants, but the lack of guidance can lead to unfounded career choices, resulting in frustration and abandonment.

The COVID-19 pandemic has exacerbated these challenges, affecting higher education globally and increasing dropout rates. According to UNESCO (2022), the pandemic impacted 94% of students worldwide, transforming face-to-face classes into virtual ones and aggravating the economic crisis, which has negatively influenced educational continuity.

The first year of university is particularly critical in terms of dropout rates (Silva-Laya, 2011). This period is characterized by a pedagogical, cultural, and generational break compared to high school, where students enter a new institution, changing the forms of school work and relationships with teachers and peers (Guzmán et al., 2022).

Added to all of the above is the situation generated by the COVID-19 pandemic, which complicated the educational landscape by transforming face-to-face classes into online classes, along with an economic crisis that affected a large part of the population. According to the United Nations (UN, 2020), the pandemic affected 94% of students worldwide.

This study aims to identify the transversal competencies of nursing and physiotherapy students and the risk factors for dropping out in the post-pandemic context, given that they have returned to face-to-face learning with the "new normal" after confinement at home.

## **OBJECTIVE**

To identify transversal competencies and risk factors for university dropout in first-year physiotherapy and nursing students.



## **METHODOLOGY**

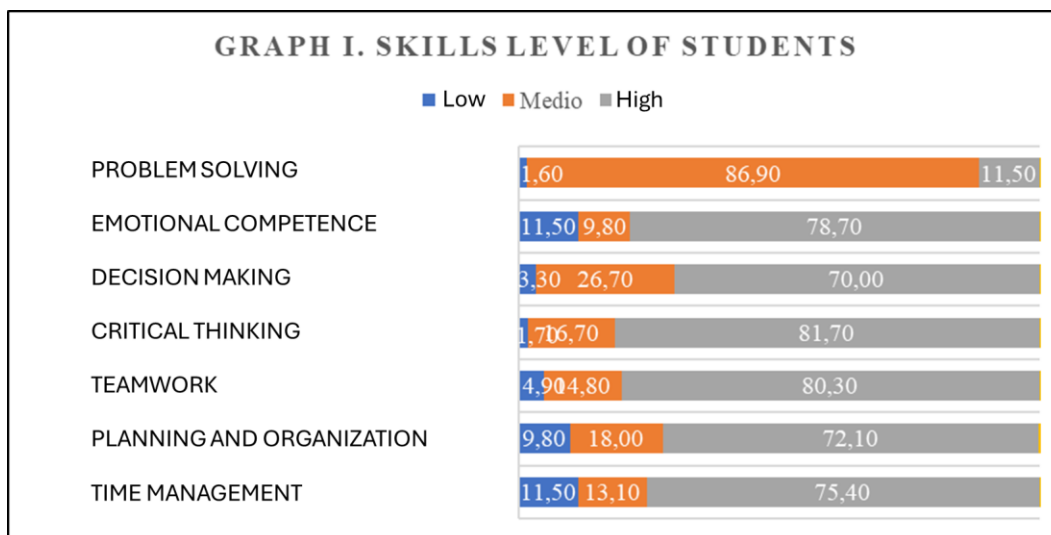
A quantitative study of descriptive cross-sectional design was carried out, focused on students of the first and second semester of the physiotherapy and nursing careers of a private school in Jalisco, Mexico. A total of 61 students were included in the study, 30 nursing students and 31 physiotherapy students, using convenience sampling. For data collection, seven scales were applied to measure competencies in Critical Thinking, Decision Making, Time Management, Planning and Organization, Teamwork, Problem Solving and Emotional Competence. In addition, a questionnaire was used to evaluate the risk factors associated with university student dropout, including individual, institutional, socioeconomic, and academic aspects.

The data obtained were presented using measures of central tendency and dispersion. For quantitative variables, the mean was used, while for qualitative variables, percentages were used. A descriptive analysis was carried out to determine the level of professional competencies, classifying them as high, medium and low according to this criterion. Subsequently, a comparison was made between the two groups using Student's t-test for independent samples, and a statistically significant difference was considered if the p-value was less than or equal to 0.05. Likewise, a frequency analysis was carried out to identify the factors associated with dropout. All participants gave their informed consent and the study protocol was evaluated and approved by the university's research and bioethics committees.

## **DEVELOPMENT**

30 nursing students and 31 physiotherapy students were included. The mean age was  $20.08 \pm 2.084$  years. Most live with both parents, 87.1% in physiotherapy and 66.7% in nursing depend economically on third parties, in addition 71% of physiotherapy do not work, while in nursing 50% work. More than 60% feel very attached to their family. Regarding their relationship situation, 64.5% in physiotherapy and 70% in nursing are single. The vast majority of students do not have children (96%). Only 15% of students have illnesses or physical limitations that they consider can support their academic performance

Graph 1 shows the percentage distribution of students in three levels of proficiency, low, medium and high, in various areas. Students show the highest competencies in critical thinking, teamwork, and emotional competence, with more than 75% of them achieving high levels in these areas. On the other hand, the areas with the greatest need for improvement are problem solving, and time management, where a more significant percentage of students at low levels is observed.



The comparison analysis did not show significant differences ( $p < 0.5$ ), however, physiotherapy students have higher levels of competencies compared to nursing students, mainly in critical thinking, emotional competence, decision-making and problem solving (See Table I).

Table I. Level of competition by career

Competence	Physiotherapy		Infirmary	
	Frequency	%	Frequency	%
Time management				
Low	4	12.9	3	10
Middle	3	9.7	5	16.7
High	24	77.4	22	73.3
Planning and organization				
Low	3	9.7	3	10
Middle	6	19.4	5	16.7
High	22	71	22	73.3
Teamwork				
Low	2	6.5	1	3.3
Middle	4	12.9	5	16.7
High	25	80.6	24	80

Critical thinking				
Low	0	0	1	3.3
Middle	3	10	7	23.3
High	27	90	22	73.3
Decision-making				
Low	1	3.2	1	3.4
Middle	7	22.6	9	31
High	23	74.2	19	65.5
Emotional competence				
Low	2	6.5	5	16.7
Middle	1	3.3	5	16.7
High	28	90.34	28	66.7
Troubleshooting				
Low	0	0	1	3.3
Middle	26	83.9	27	90
High	5	16.1	2	6.7



Regarding the analysis of the risk factors for dropout perceived by physiotherapy and nursing students, several critical areas were identified that can influence their academic performance and continuity in their studies (See Table II).

When examining factors that influence their learning process, it was observed that more than half of the physiotherapy students (54.8%) show difficulties in managing their time effectively, compared to nursing where a lower proportion (33.3%) is reported. Physiotherapy students (48.4%) indicate difficulties in maintaining concentration, while in nursing only 36.7% report it. Regarding the lack of an adequate place to study, both careers have similar percentages, 19.4% in physiotherapy and 20% in nursing. Nursing students (30%) perceive greater difficulty in understanding the topics than physiotherapy students (22.6%). Finally, lack of interest or motivation is more common in physiotherapy (12.9%) than in nursing (20%).

The main reasons they perceive as a cause for failing a course differ between the two programs, with transportation being a significant problem for a high percentage of physiotherapy students (54.8%) compared to nursing students (20%), while economic problems were mentioned more frequently by physiotherapy students (35.5%) compared to nursing students (30%). Work (33.3%) and caring for a family member or child (26.7%) is a more common cause in nursing than in physiotherapy (29% and 19.4% respectively).

Regarding the reasons for considering dropping out of the career, a greater number of nursing students (33.3%) consider economic problems as a reason for dropping out compared to physiotherapy (25.8%), the results are similar when addressing the lack of satisfaction with the career, a slightly more common reason in nursing (20%) than in physiotherapy (19.4%). Personal and/or family problems have similar percentages, with 22.6% in physiotherapy and 23.3% in nursing.

**Table II. Risk factors perceived by students**

Cuando tienes problemas con el estudio. ¿A qué piensas que se debe?	Fisioterapia				Enfermería			
	Sí	%	No	%	Sí	%	No	%
Organizo mal mi tiempo	17	54.8	14	45.2	19	63.3	11	36.7
Me distraigo fácilmente	16	51.6	15	48.4	15	50	15	50
No tengo un lugar adecuado en casa para estudiar	4	12.9	27	87.1	3	10	27	90
Me cuesta comprender las ideas esenciales	9	29	22	71	10	33.3	20	66.7
No me esfuerzo lo suficiente	4	12.9	27	87.1	7	23.3	23	76.7
No tengo mucho interés en el estudio	-	-	31	100	-	-	30	100
<b>Cuál es el motivo principal por el cual reprobarías algún(os) curso o asignatura?</b>								
Transporte (vivo muy lejos de la Universidad)	6	19.4	25	80.6	6	20	24	80
Por el enamoramiento o vida en pareja	1	3.2	30	96.8	-	-	30	100
Creo que no tengo hábitos de estudio	5	16.1	26	83.9	7	23.3	23	76.7
Mala formación de la escuela secundaria	1	3.2	30	96.8	4	13.3	26	86.7
Mala gestión y organización de mi tiempo	14	45.2	17	54.8	12	40	18	60
Por trabajo	4	12.9	27	87.1	10	33.3	20	66.7
Cuidado de algún familiar o hijo	2	6.5	29	93.5	2	6.7	28	93.3
Por razones de salud	4	12.9	27	87.1	4	13.3	26	86.7
Por problemas económicos	4	12.9	27	87.1	8	26.7	22	73.3
Por diversión (consumo de alcohol y cigarrillos o s. psicoactivas)	-	-	31	100	-	-	31	100
Ocio (juegos, grupos sociales, otros)	2	6.5	29	93.5	3	10	27	90
Falta de vocación profesional (desmotivación)	6	18.4	25	80.6	3	10	27	90
Por mi carácter y actitud	2	6.5	29	93.5	2	6.7	28	93.3
<b>Motivos por los que has pensado en abandonar tu carrera:</b>								
Problemas económicos	10	32.3	21	67.7	16	53.3	14	46.7
Problemas personales y/o familiares	7	22.6	24	77.4	4	13.3	26	86.7
Falta de satisfacción por la carrera	6	19.4	25	80.6	4	13.3	26	86.7
Embarazo propio o de la pareja	1	3.2	30	96.8	-	-	30	100
Cambio de residencia	-	-	31	100	-	-	30	100
Problemas de Salud	1	3.2	30	96.8	3	10	27	90
Relaciones con compañeros y/o docentes	5	16.1	26	83.9	4	13.3	26	86.7
Procesos administrativos	1	3.2	30	96.8	1	3.3	29	96.7
Reglamentaciones de la universidad	1	3.2	30	96.8	3	10	27	90
Horarios de clase	4	12.9	27	87.1	4	13.3	26	86.7
Bajo de rendimiento académico	6	19.4	25	80.6	4	13.3	26	86.7
Perdida de la beca	7	22.6	24	77.4	10	33.3	20	66.7
Metodologías de enseñanza y evaluación de los docentes	4	12.9	27	87.1	2	6.7	28	93.3

## FINAL CONSIDERATIONS

The aim of this study was to identify transversal competencies and risk factors for university dropout in first-year physiotherapy and nursing students. The competencies of critical thinking, emotional competence, decision-making and problem solving are the areas where the greatest differences are observed between the study groups, in these, physiotherapy students show higher levels of performance compared to their nursing peers, suggesting the need to strengthen the development of these competencies in nursing programs to reduce these differences.

Although students have strong interpersonal and thinking skills, they could benefit from more support and resources in improving their problem-solving and time management skills.

To address dropout challenges in nursing and physiotherapy careers, a variety of strategies must be implemented. First, it is crucial to increase opportunities for financial support, especially for nursing students, to alleviate the economic burdens that contribute to dropout.

Second, improving career guidance and counseling programs can increase career satisfaction and reduce dropout. In addition, increasing psychological and family support services is essential to help students manage personal and family problems that affect their academic continuity. Simplifying and improving administrative processes can reduce the bureaucratic barriers students face. Finally, reviewing



and making class schedules more flexible will allow you to better accommodate the individual needs of students. Implementing these measures can significantly help reduce the dropout rate and improve the academic experience of students in both majors.



## REFERENCES

- Aguirre Zazueta, A. G., & Ontiveros Herrera, G. (2024). Motivación escolar y factores asociados al desempeño académico en estudiantes de enfermería en Culiacán, Sinaloa, México. *Revista en Educación y Cuidado Integral en Enfermería*, 1(1), 59-66.
- Cardoso, E. O., Cerecedo, M. T., & Ramos, J. R. (2011). Propuesta para evaluar la calidad de un programa de posgrado en educación. *Revista Iberoamericana de Educación*, 55(2), 1–12.
- Cortés-Cáceres, S., Álvarez, P., Llanos, M., & Castillo, L. (2019). Deserción universitaria: La epidemia que aqueja a los sistemas de educación superior. *Revista Perspectiva*, 20(1), 13-25.
- Del Carmen, M. (2014). Factores intervinientes en el fenómeno de la deserción universitaria. *Revista Argentina de Educación Superior*, 8, 39-61.
- Guzmán, A. M. F., Nasner, L. T. M. C., Delgado, Y. A. G., & Zambrano, S. B. (2022). Deserción en la población estudiantil universitaria durante la pandemia, una mirada cualitativa. *Revista Virtual Universidad Católica del Norte*, 66, 37-62.
- Hidalgo Blanco, M. A. (2017). La decisión de estudiar enfermería: Motivación y expectativas de los alumnos de primer curso de la Universitat de Barcelona (Tese de doutorado, Escola Universitária de Enfermeria). Barcelona.
- Organización de las Naciones Unidas (ONU). (2019). Informe de los Objetivos de Desarrollo Sostenible. Naciones Unidas. [https://unstats.un.org/sdgs/report/2019/The-Sustainable-Development-GoalsReport-2019\\_Spanish.pdf](https://unstats.un.org/sdgs/report/2019/The-Sustainable-Development-GoalsReport-2019_Spanish.pdf). Accessed May 15, 2023.
- Romero-Encalada, I. D., Mora-Veintimilla, G. del R., Paccha-Tamay, C. L., & Chamba-Tandazo, M. (2020). La deserción en la formación académica de la carrera de Enfermería. *Dom. Cien.*, 6(3), 874-884.
- Ryan, J. M., Potier, T., Sherwin, A., & Cassidy, E. (2021). Identifying factors that predict attrition among first year physiotherapy students: A retrospective analysis. *Physiotherapy*, 110, 26-33.
- Silva-Laya, M. (2011). El primer año universitario: Un tramo crítico para el éxito académico. *Perfiles Educativos*, 33, 102-114.
- UNESCO. (2022). Informe sobre el impacto de la pandemia en la educación superior. Organização das Nações Unidas para a Educação, a Ciência e a Cultura.