

The risk map of admitted students to a health sciences school at a private university in Argentina: preliminary results.

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Abstract.

This paper describes the design, implementation, and preliminary results of the risk mapping of students admitted to a health sciences school in a private university in Argentina, introduced in 2021. Risk refers to difficulties related to personal, academic, vocational, and economic aspects of the students that would anticipate dropouts and some specific interventions. The construction of the risk map arises from considering the prior experience accumulated in this biomedical school and the literature review on this topic. Preliminary results show the usefulness of the instrument for the recording of significant information to be admitted and the implementation of associated strategies. In addition, it describes some inter-career differences that we will study. It is an institutional challenge to reconcile management practices with the characteristics and context of the students admitted to provide practical assistance and opportunities so that their experience through the university is thriving.

Keywords: academic risk, student dropout, accompaniment strategies

1 Introduction

Every year, 250 students enter Universidad Austral's School of Biomedical Sciences to study medicine, nursing, nutrition, and psychology. They first complete a leveling course and an admission exam. They will successfully meet the system's demands and become health professionals by the proposed profile.

Within this framework, a management tool was designed to describe the characteristics of the students admitted and to register data that would help accompany them during their itineraries. The system offered information on secondary school grades, the admission exam, and financial aid needs. In practice, each program included additional, undocumented information about career dropouts that we must study. For example, foreign students who had difficulties and, in some cases, dropped out were those who lived alone and spoke poor Spanish. Being the first university student in the family affected medical students more than other disciplines. Concerning dropouts, there were differences between the predominant vocational causes ("this is not my purpose") in the first year and academic performance ("I dropped out of my studies"). The aim was to design and implement a risk map to record specific information on admitted and design indicators to develop appropriate support strategies.

2 Theoretical Framework

Our admitted students are between 18 and 25 years old, in later adolescence and early adulthood. Some characteristics are a lack of emotional stability and the need to test themselves to seek opportunities and develop critical thinking (Jensen, 2008). However, recording and assessing these characteristics is difficult (Elam et al. 1999).

University is a source of knowledge, specialization and an agent of transforming people and society. This implies orienting the educational process towards the person's integral development, promoting possibilities for their expression (Guadagni, 2022). Helping students through the university requires attention to all aspects of their personality, not just academics.

The management of academic processes require information about all community members. Argentina statistics show that only 49.4% of private university students continue studying in the second year, and 22% change careers (Secretariat of University Policies, 2020-2021). Our Biomedical Sciences School's dropout rate is 25%, and vocational reasons were high in the first year.

Attrition is a problem linked to multiple factors (Fernández-Hileman et al. 2014; Garcia de Fanelli, 2014). These include the students and their context, the institution, and the interaction between them (Tinto, 1987). Developing management practices anticipating students' difficulties and providing adequate support mechanisms is challenging.

The risk map emerges from contributions highlighting the importance of comprehensively characterizing students, including academic background, family and cultural context, time, learning styles, attitudes, interpersonal relationships, and mental health (Ahmady et al., 2019; Ashwin, 2020).

3 Methods

Risk refers to characteristics of students that indicate the possibility of dropping out at some point during their academic life.

3.1 General Objective:

To design and implement a risk map describing the admitted student's characteristics and strategies to help them.

3.2 Specific Objectives:

- To identify the characteristics of the entrants that constitute a risk.
- To analyze and compare the performance of risk indicators.

The process begins with the admission course's successful admission information registration through an online form and an interview (figure 1).

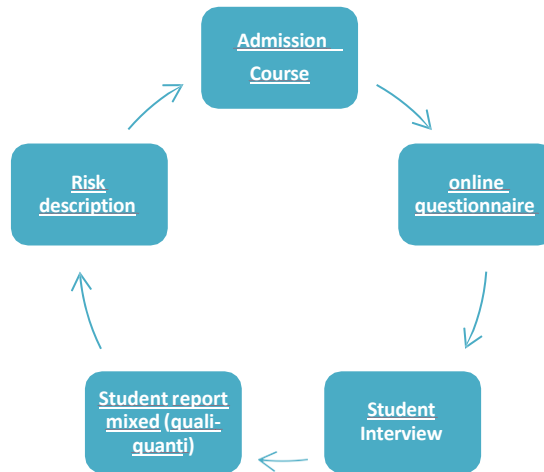


Figure nº1 Process to design the risk map

An evaluator quantifies the risk according to different indicators: personal, vocational, academic, and economic (table one). The information obtained constructs the risk map of each student's career (table two).

Then for each student, we decided on specific interventions:

- Assignment of tutors.
- Remedial activities on study methodology.
- Follow-up of high-risk students.
- Relationship activities for foreigners.
- Psychological support program.

Table nº1 Example dimensions and indicators included in the risk map

Risk Dimensions	Personal	Academic	Vocation	Economic
Indicators	Provinces/Foreign	Fail admission courses examination	Unknow the motives for the decision	Ask for a scholarship
	Live alone	Score in admission courses	Unreflective decision	Family income
	Poor Spanish	No extra-curricular activities	Unclear plans	Have to work
	Need time to travel to daily classes	Study habits	No vocational test	Socioeconomic disadvantage

DOI: <https://doi.org/10.15443/codes1915>

	Incomplete parents' level of instruction	Low self-concept	Unreal hopeful about the profession	
	Have a children	Poor secondary school background		
	Mental health problems			
	Limited technology access			

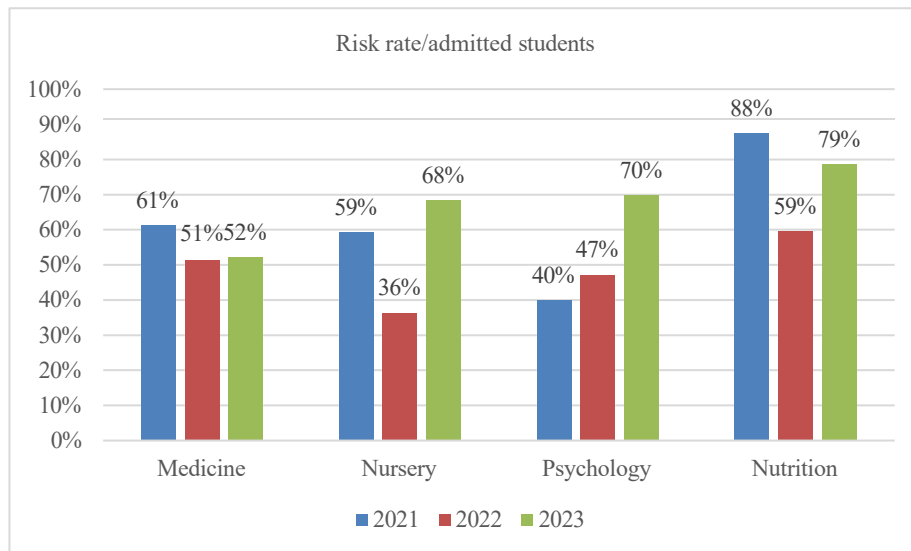
Table n°2 Example of registration and risk quantification: Seven indicators are shown out of twenty-three. If there is a risk, it is 1).

student	indicator 1	indicator 2	indicator 3	indicator 4	indicator 5	indicator 6	indicator 7	risk
	provinces	foreign	Poor Spanish	Live alone	Many admission courses	Poor study habits	Low self-esteem	total
1	1	0	0	1	1	1	1	4
2	0	0	0	0	0	0	0	0
3	0	0	0	0	0	0	0	0
4	0	1	1	1	1	1	1	7

4 Preliminary Results

- The number of admitted at-risk is high in all four careers (graph 1).
- In the four careers, there was no difference in the number of students dropping out between one risk indicator or more than one.
- Most students who dropped out were at risk (table 3). However, 45% of medical students do not have a risk, which is an unexpected result.

-The dropout rate shows values that tend to improve in Medicine and Nutrition; we will continue studying (table n°4).



Graph n°1 Rate of admitted students' risk

Table n°3 Students dropout risk /dropout students

Program	2021	2022	2023
Medicine	11%	56%	55%
Nursery	38%	100%	100%
Psychology	100%	100%	100%
Nutrition	100%	100%	100%

Table n°4 Evolution dropout rate

Program	2021	2022	2023
Medicine	22%	14%	9%
Nursery	29%	12%	14%
Psychology	12%	9%	12%
Nutrition	22%	10%	3%

5 Discussion

This risk map reflects the admitted student's heterogeneity characteristics of our biomedical school. This suggests some inter-career differences that would arise in discipline identities. Improving attrition is complex, confirming the incidence of multiple factors (personal, institutional, and contextual). Attending to cognitive, emotional, motivational, and contextual dimensions is essential to improve student retention (Romero et al., 2023).

6 Conclusions

The risk map helps characterize admitted students and implement support strategies. Understanding risk by considering the student and their context helps to devise inclusive management practices. Indicators of emotional and mental health problems that affect students' adjustment emerge. We must continue studying risk map indicators to establish a relationship with our students' journeys.

7 Limitations and Future Research

The study will continue with new cohorts and longitudinal follow-up of the risk map. New questions arise: Some students dropped out and were not at risk, and some indicators behave differently depending on the career.

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V Congreso en Docencia en Educación Superior Codes y I Congreso Latinoamericano y del Caribe de Innovación en Investigación en Educación Superior LatinsoTI
La Serena, Chile. 8,9 y 10 de noviembre del 2023

DOI: <https://doi.org/10.15443/codes1915>

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