

SYSTEMATIC REVIEW

REVISED University Dropout: A Systematic Review of the Main

Determinant Factors (2020-2024)

[version 2; peer review: 2 approved]

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Abstract

Introduction

This research is a systematic review aimed at synthesizing scientific evidence on the causes of university dropout, focusing on the subcategories of vocational guidance, academic performance, socioeconomic status, and institutional aspects between 2020 and June 2024.

Methods

Only articles addressing university dropout were considered, analyzing dimensions such as vocational guidance, academic performance, socioeconomic status, and institutional aspects. Articles published in indexed scientific journals with double-blind, doubleblind peer, or open reviews between 2020 and June 2024 were included. The main databases used were Scopus, Web of Science, and Google Scholar. To assess the risk of bias in qualitative studies, the criteria from the article "Validity criteria for qualitative research: three epistemological strands for the same purpose" were used. For quantitative studies, the criteria from the article "Evaluating survey research in articles published in Library Science journals" were followed. For mixed-method studies, both sets of criteria were

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combined.

Results

A total of 23 studies were included: 15 quantitative (65.22%), 3 qualitative (13.04%), and 5 mixed-method (21.74%). All studies (100%) addressed the subcategories of socioeconomic status and institutional aspects. Regarding the academic performance subcategory, 86% of the studies addressed it, while the vocational guidance subcategory was covered by 73.91% of the studies.

Conclusions

Vocational guidance, academic performance, socioeconomic status, and institutional aspects are crucial for reducing university dropout. Providing adequate professional guidance, academic support, financial assistance, and strong institutional support is fundamental to improving student retention and academic success.

Keywords

University dropout, vocational guidance, academic performance, socioeconomic status, institutional aspect

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REVISED Amendments from Version 1

Version 2 of the manuscript incorporates enhancements that significantly enrich the first version. Here are some of the most relevant improvements:

Title Modification: The original title of the review was adjusted to include the study period (2020-2024), a change that addresses the reviewers' observations. This temporal precision helps contextualize the review, as well as the scope and relevance of the findings presented.

In-depth Review of University Dropout Factors: The analysis of university dropout subfactors has been expanded, including vocational guidance, academic performance, socioeconomic status, and institutional aspects. Each of these factors is now presented with updated citations and specific data, which enhances understanding of how each contributes to university dropout.

PRISMA 2020 Methodology: This version reinforces the explanation of the importance of using the PRISMA 2020 methodology, highlighting how its 27-item checklist provided a comprehensive and rigorous framework for selecting and synthesizing studies. The mention of advanced methodologies and digital tools for analysis also helps readers understand how consistency and reproducibility in the results were maintained.

Clarification on the Origin of Studies: An important specification was added regarding the origins of the studies, which could come from public or private universities or other higher education institutions across various countries and in any language. This addition broadens the context of the study sample and underscores its diversity.

Inclusion of Table 1: This updated version of Table 1 now details countries, approaches, study design, samples, and techniques and instruments used, which responds to the reviewer's observations and helps readers understand the methodological distribution of the studies. It also provides a detailed breakdown of the number of studies by approach (quantitative, qualitative, and mixed methods) and by country of origin, allowing for clearer analysis of patterns and trends related to the dropout phenomenon.

Any further responses from the reviewers can be found at the end of the article

Introduction

University dropout is a multifaceted problem that affects both educational institutions and society at large. This phenomenon is influenced by several key factors. Inadequate vocational guidance can lead to poor career choices, resulting in a disconnection from studies and, ultimately, dropout. Providing proper career guidance before the start of studies allows for informed decisions, reducing the risk of dropout. Academic performance also plays a crucial role, as students with better grades are less likely to abandon their studies. However, academic performance alone is not sufficient to ensure retention if it is not addressed alongside other factors (Bernardo et al., 2017; Chalela-Naffah et al., 2020; Kim & Kim, 2018; Santos-Villalba et al., 2023; Schmidt et al., 2023).

Socioeconomic status is another critical determinant, as financial difficulties can force students to abandon their studies to work or attend to family responsibilities. Finally, institutional aspects, such as satisfaction with study programs, integration into the academic environment, and institutional support, are fundamental for reducing dropout rates. An integrated approach that considers vocational guidance, academic performance, socioeconomic status, and institutional aspects is essential to effectively address university dropout (Chalela-Naffah et al., 2020; Kim & Kim, 2018; Schmidt et al., 2023). Additionally, other important reasons include lack of motivation, low self-esteem, and frustration (dos Santos et al., 2022; Garcés-Delgado et al., 2024; Garcés-Prettel et al., 2024).

The impact of university dropout extends to economic, personal, and institutional levels. Dropout leads to frustrated professionals, a lower intellectual and productive contribution to society, and economic costs for families and institutions. Additionally, dropout is associated with difficulties in adapting to university studies, personal and professional challenges, and a lack of emotional support (Garcés-Prettel et al., 2024).

To prevent university dropout, it is essential to constantly monitor academic performance and include formal academic reinforcement activities (Santos-Villalba et al., 2023). Educational policies should be designed with the realities and needs of students in mind, using innovative methodologies to increase motivation (Garcés-Prettel et al., 2024; Kim & Kim, 2018). Communication between university administration, faculty, and students is crucial in academic retention processes (Chalela-Naffah et al., 2020; Valencia-Arias et al., 2023).

The economic implications of university dropout are significant. Dropout represents a high percentage of public expenditure on higher education and has economic consequences for families and institutions (Santos-Villalba et al., 2023). Socioeconomic factors and the income score provided by the University Admission Exam are important variables

influencing student dropout (Viloria et al., 2019). The cumulative effect of low admission scores and living far from family support results in a higher probability of dropout, highlighting the economic impact on students (Chalela-Naffah et al., 2020).

Likewise, university dropout is influenced by a multitude of factors, including academic performance, economic difficulties, and dissatisfaction with the educational experience. The impact of dropout on students includes personal and professional challenges, while the economic implications are significant for both individuals and institutions. Strategies to prevent dropout involve constant monitoring of academic performance, designing educational policies aligned with student needs, and implementing interventions that provide support and motivation to at-risk students.

The relevance of studying the category of university dropout lies in a comprehensive understanding of its subcategories. In terms of inadequate vocational guidance, it contributes to early dropout, as many students enter programs that do not align with their interests or abilities, increasing the likelihood of withdrawal (Lorenzo-Quiles et al., 2023). Low academic performance, especially in the first year, is also a critical factor, impacting approximately 20-30% of students in some countries (OECD, 2019). Additionally, socioeconomic status has a decisive influence, as students from lower socioeconomic backgrounds face greater challenges in covering educational costs, which results in inefficient use of resources such as scholarships and financial aid intended to prevent dropout (Mtshweni, 2021). Finally, institutional aspects, such as the quality of support services and the availability of academic and social resources, are also critical factors affecting retention. Institutions with deficiencies in these areas experience a higher dropout rate, impacting both the academic structure and the financial resources available (Guzmán Rincón et al., 2021).

All the theoretical information addressed so far leads to the following question: What scientific evidence exists regarding the causes of university dropout related to vocational guidance, academic performance, socioeconomic status, and institutional aspects between 2020 and June 2024? The general objective is to systematize the scientific evidence on the causes of university dropout, focusing on the subcategories of vocational guidance, academic performance, socioeconomic status, and institutional aspects between 2020 and June 2024.

Methods

For the development of this research, the PRISMA 2020 methodology was essential, providing a comprehensive and rigorous framework for conducting a systematic review of university dropout (Page et al., 2021). Its 27-item checklist facilitated the selection, synthesis, and reporting of studies, ensuring transparency and minimizing bias in the findings (Page et al., 2021). Additionally, its integration of advanced methodologies, such as the use of digital tools for analysis, strengthened the consistency and reproducibility of results, which are crucial in the educational field (Brennan & Munn, 2021). This approach enabled a structured and reliable review, aligned with educational research needs.

Inclusion criteria

International studies published between 2020 and June 2024 were included, focusing on the factors of university dropout. The studies had to employ qualitative, quantitative, and mixed methodological approaches, presenting a standardized methodological design. Only articles addressing the category of university dropout were considered, analyzing at least two of the subcategories of vocational guidance, academic performance, socioeconomic status, and institutional aspects. These studies could come from public or private universities or other higher education institutions. The articles needed to be published in indexed scientific (in any language) journals with double-blind, double-peer blind, or open reviews.

Exclusion criteria

Studies published outside the period from 2020 to June 2024, documents that were not research articles, and those that did not specifically focus on university dropout or did not consider at least 50% of the study subcategories were excluded. Studies with poor methodological design were also discarded (Table 2).

Table 1 shows a total of 23 investigations, distributed as follows: 15 quantitative studies (65.22%), 3 qualitative studies (13.04%), and 5 mixed-method studies (21.74%). All studies (100%) addressed the subcategories of socioeconomic status and institutional aspect. The subcategory of academic performance was covered by 86% of the studies, while the subcategory of vocational guidance was addressed by 73.91% of the studies. The table also includes relevant general methodological information for each included study. Of all the studies included, spanning 12 different countries, the largest concentration was in Colombia with 5 studies (21.74%), followed by Spain with 4 (17.39%) and Mexico with 3 (13.04%). Germany and Chile each contributed two studies (8.70%), while Denmark, Peru, Ecuador, South Africa, the Dominican Republic, Kosovo, and Cuba each contributed one study (4.35%).

Table 1. General characteristics of included studies.

No.	Authors, Year	Country	Category (University Dropout)				General Methodological Information
			1	2	3	4	
1	(Thies & Falk, 2024)	Germany	X	X	X	X	Approach: Quantitative Design: Longitudinal Population and Sample: International students who began their studies at German universities in the winter semester of 2017-2018 Sample: 3660 students Techniques and Instruments: Online survey
2	(Thomsen, 2022)	Denmark	-	X	X	X	Approach: Quantitative Design: Longitudinal Population and Sample: Students enrolled for the first time in a university bachelor's program in Denmark between 1993 and 2006 Sample: 185,939 students Techniques and Instruments: Document review
3	(Geisler et al., 2023)	Germany	-	X	-	X	Approach: Quantitative Design: Longitudinal Population and Sample: First-year students enrolled in a pure mathematics program or a mathematics teacher training program at a public university in Germany Sample: 274 students Techniques and Instruments: Questionnaire
4	(Gonzales Lopez & Evaristo Chiyong, 2021)	Peru	-	X	X	X	Approach: Quantitative Design: Quasi-experimental Population and Sample: First-year university students enrolled in a Descriptive Statistics and Probabilities course at a private university in Lima (39 in the control group and 28 in the experimental group) Techniques and Instruments: Measurement scale
5	(Pertegal-Felices et al., 2022)	Ecuador	-	-	Х	X	Approach: Quantitative Design: Multivariate analysis Population and Sample: 1676 university students from 11 universities in Ecuador Techniques and Instruments: Likert scale
6	(Wagner et al., 2024)	South Africa	-	X	X	X	Approach: Quantitative Design: Non-experimental Population and Sample: 596 first-year students surveyed between September and October 2020 Instrument: Questionnaire
7	(Castro-Martínez & Machuca- Téllez, 2023)	Colombia	Х	X	X	X	Approach: Qualitative Design: Literature review Population and Sample: Not applicable Instrument: Document analysis
8	(Santos-Villalba et al., 2023)	Spain	X	X	X	X	Approach: Qualitative Design: Phenomenological Population and Sample: 12 students who had interrupted their studies Techniques and Instruments: Focus group discussions
9	(Llauró et al., 2023)	Spain	Х	X	X	X	Approach: Mixed Design: Iterative and participatory Population and Sample: 1,742 students Instruments: Questionnaire and focus groups

Table 1. Continued

No.	Authors, Year	Country	Category (University Dropout)			General Methodological Information	
			1	2	3	4	
10	(Schmidt et al., 2023)	Chile	X	X	X	X	Approach: Quantitative Design: Non-experimental, descriptive, and cross-sectional Population and Sample: 2222 university students, 2016 cohort, Universidad de La Frontera in Temuco, Chile (46% women and 54% men)
11	(Marte Espinal & Fabián V, 2021)	Dominican Republic	X	X	X	X	Design: Descriptive and non-experimental, with a cross-sectional design Population: 12,716 students from various programs at the Santiago Campus of UASD Sample: 415 students Instruments: Surveys and open interviews
12	(Guerrero & Espejo, 2024)	Colombia	X	X	X	X	Approach: Quantitative Design: Comparative-inferential Population and Sample: The sample comes from national databases such as SPADIES in Colombia and EducaBase in Spain, covering data from 2010 to 2022 Instrument: Questionnaire
13	(Kabashi et al., 2022)	Republic of Kosovo	-	X	X	X	Approach: Quantitative Design: Non-experimental Population and Sample: 650 respondents from FECE programs (14.75% of dropouts between the academic years 2011-2012 and 2015-2016) Techniques and Instruments: Questionnaire
14	(Candelario Navarrete et al., 2024)	Mexico	X	X	X	X	Approach: Mixed Design: Descriptive and interpretative Population and Sample: Data provided by the National Institute of Statistics and Geography (INEGI) through the National Survey of Occupation and Employment (ENOE) and by the National Council for the Evaluation of Social Development Policy (CONEVAL) Techniques and Instruments: Surveys and interviews
15	(Félix Ibarra et al., 2023)	Mexico	X	X	X	X	Approach: Qualitative Design: Descriptive Population and Sample: 19 out of 32 students from the 2017-2021 cohort of the Law and Social Sciences program at a public Mexican university who had abandoned their studies Techniques and Instruments: Interviews
16	(Garcés-Prettel et al., 2024)	Colombia	X	X	X	X	Approach: Quantitative Design: Cross-sectional Population and Sample: Convenience sample of 539 students Techniques and Instruments: Questionnaires
17	(Díaz-Barriga- Arceo et al., 2022)	Mexico	X	X	X	X	Approach: Mixed Design: Non-experimental Population and Sample: 268 students from the National Autonomous University of Mexico (UNAM) Techniques and Instruments: Content analysis.
18	(Lázaro Alvarez et al., 2020)	Cuba	X	X	X	X	Approach: Quantitative Design: Non-experimental Population: 1022 Cuban students Sample: 485 students Techniques and Instruments: Questionnaire

 Table 1. Continued

No.	Authors, Year	Country	Category (University Dropout)				General Methodological Information
			1	2	3	4	
19	(Chalela-Naffah et al., 2020)	Colombia	X	X	X	X	Approach: Quantitative Design: Exploratory-descriptive Population and Sample: 3026 students (74.7% of the total population) Techniques and Instruments: Questionnaire
20	(González Sanzana & Arce Secul, 2021)	Chile	X	X	X	X	Approach: Quantitative Design: Non-experimental – descriptive Population and Sample: 784 Chilean students enrolled in teaching programs Techniques and Instruments: Questionnaire
21	(Garcés-Delgado et al., 2024)	Spain	X	X	X	X	Approach: Mixed Design: Multiple case study Population and Sample: 34 dropout students from three autonomous communities in Spain Techniques and Instruments: Interviews
22	(Valencia-Arias et al., 2023)	Colombia	X	X	X	X	Approach: Quantitative Design: Cross-sectional exploratory-descriptive Population and Sample: Higher education students in Colombia, sample of 372 students from a low-middle socioeconomic level Techniques and Instruments: Questionnaire
23	(Galve-González et al., 2023)	Spain	X	X	X	X	Approach: Quantitative Design: Descriptive non-experimental Population and Sample: 719 students from a public university in Spain, 521 were first-year students and 198 were second-year students Techniques and Instruments: Questionnaire

^{1 =} Vocational Guidance (subcategory); 2 = Academic Performance (subcategory); 3 = Socioeconomic Status (subcategory); 4 = Institutional Aspect (subcategory).

Table 2. Research excluded at the last minute that apparently met the inclusion criteria.

No.	Authors, Year	Causes of exclusion
1	(Henriquez Cabezas & Vargas Escobar, 2022)	This research focused exclusively on developing an early warning system to prevent academic dropout by analyzing academic performance. Causes of dropout related to vocational guidance, academic performance, socioeconomic status, or institutional factors were not included.
2	(Zárate-Valderrama et al., 2021)	This study aimed to use classification models to identify patterns and predict potential cases of dropout among university students. Therefore, it did not prioritize the causes of student dropout in any of the subcategories addressed in this review.
3	(Hoyos Osorio & Daza Santacoloma, 2023)	This research, although presenting an important early warning system to identify first-semester students at high risk of dropout, does not comprehensively address the causes of dropout related to the categories and subcategories of this review.
4	(Castrillón-Gómez et al., 2020)	This interesting study focuses exclusively on predicting student dropout using data mining techniques. Therefore, its contributions are very useful for designing university strategies aimed at reducing student dropout. However, it is not fully aligned with the research question guiding this systematic review.
5	(Barradas Arenas & Cocón Juárez, 2022)	This research focused on evaluating the impact of a repository of e-learning tools and the didactic strategies applied to reduce failure rates in the Bachelor's program in Information Technology at the Autonomous University of Carmen. However, it does not prioritize other central subcategories in this review, such as vocational guidance, socioeconomic status, and institutional aspects.

Table 3. Search strategies for all databases.

- TITLE (university AND dropout) AND PUBYEAR > 2019 AND (LIMIT-TO (DOCTYPE, "ar") AND (LIMIT-TO (OA, "all")) = 104 Results
- (TITLE (university AND dropout) AND TITLE (vocational AND guidance)) AND PUBYEAR > 2019 = 17 Results
- (TITLE (university AND dropout) AND TITLE (academic AND performance)) AND PUBYEAR > 2019 07 = 36 Results
- TITLE (university AND dropout) AND TITLE (socio-economic AND status)) AND PUBYEAR > 2019 = 9 Results
- (TITLE (university AND dropout) AND TITLE (institutional AND aspect)) AND PUBYEAR > 2019 = 14 Results

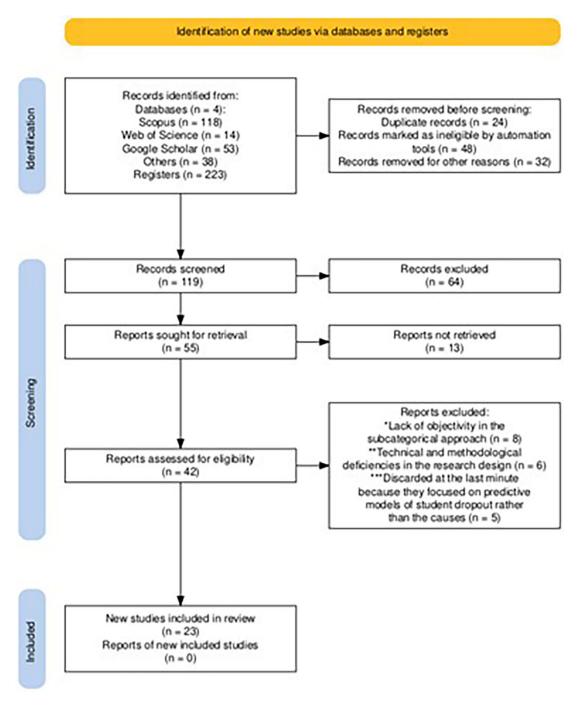


Figure 1. PRISMA flow diagram for article selection.

Information sources

The main databases used were Scopus, Web of Science, and Google Scholar. The search was conducted over a period of approximately 60 days, concluding in May 2024. During this time, the reference lists of identified studies were thoroughly reviewed to ensure no relevant sources were omitted.

Search strategy

Descriptors such as University Dropout, Vocational Guidance, Academic Performance, Socio-Economic Status, and Institutional Aspect were used. This strategy allowed for a wide range of studies to be covered and ensured a comprehensive and representative data collection of the existing literature on the subject under study (Table 3).

Study selection

The process to determine if a study met the inclusion criteria was conducted in several stages. Two review authors independently screened each record and publication, reviewing titles and abstracts for preliminary selection. They then evaluated the full texts of the selected studies to confirm their eligibility. In cases of discrepancies, critical discussions were held to reach a consensus. Screening and inclusion were done manually, without the use of automation tools, to ensure accuracy and consistency in the application of the inclusion and exclusion criteria (Figure 1).

Data extraction

Two independent reviewers collected data from each publication, including details such as the article title, reference, year, study categories, approach, type of research, population and sample, and instruments used. The reviewers verified the data through discussions to resolve discrepancies, ensuring accuracy and consistency. No automation tools were used in this process.

List of data

Data on university dropout were collected, focusing on the reasons and impact of dropout on students and institutions. Additionally, data were collected on participant characteristics (age, gender, socioeconomic level, and educational background) and intervention characteristics (type of programs or policies). Studies with incomplete, missing, or questionable information were excluded.

Assessment of risk of bias in individual studies

To assess the risk of bias in qualitative studies, the criteria from the article "Validity criteria for qualitative research: three epistemological strands for the same purpose" (Aráoz Cutipa & Pinto Tapia, 2021) were used, focusing on the credibility and transferability of the qualitative studies. For quantitative studies, the criteria from the article "Evaluating survey research in articles published in Library Science journals" (Salvador-Oliván et al., 2021) were followed, evaluating survey design and data analysis. For mixed-method studies, both approaches were combined. Two authors independently conducted the assessment, resolving discrepancies by consensus.

Methods of synthesis

To determine the eligibility of studies for synthesis, the characteristics of each study were tabulated and compared with the predefined inclusion criteria. A matrix was used, which included the article title, reference, year of publication, categories and subcategories, as well as relevant methodological information.

Results

Table 2.2 in Extended data shows a total of 23 investigations, distributed as follows: 15 quantitative studies (65.22%), 3 qualitative studies (13.04%), and 5 mixed-method studies (21.74%). All studies (100%) addressed the subcategories of socioeconomic status and institutional aspect. The subcategory of academic performance was covered by 86% of the studies, while the subcategory of vocational guidance was addressed by 73.91% of the studies. The table also includes relevant general methodological information for each included study.

Within the issue of University Dropout, Vocational Guidance emerges as a determining factor in dropout rates. Various studies have indicated that the lack of adequate career guidance can lead students to make poor career choices, which often results in a disconnection from their studies and, ultimately, in dropout (Castro-Martínez & Machuca-Téllez, 2023; Santos-Villalba et al., 2023; Thies & Falk, 2024). Thus, providing adequate guidance on study programs and professional training before students begin their studies allows them to make informed decisions, thereby reducing the risk of dropout (Thies & Falk, 2024). Scientific evidence supports that vocational guidance not only helps students identify their interests and skills but also provides them with a clear vision of their future career paths, which can increase their motivation and commitment (Candelario Navarrete et al., 2024; Castro-Martínez & Machuca-Téllez, 2023; Schmidt et al., 2023).

Many students abandon their studies upon realizing that the field they chose does not align with their personal interests or professional goals. This misalignment leads to a loss of motivation and can trigger identity and attachment crises (Félix Ibarra et al., 2023; Santos-Villalba et al., 2023). Additionally, the lack of clear vocational guidance can make students feel disconnected and ill-prepared for the job market, increasing uncertainty about their professional future (Candelario Navarrete et al., 2024; Garcés-Prettel et al., 2024).

Student motivation and interest in their study program significantly impact dropout rates. In this regard, students' passion and commitment to their field of study are essential for preventing dropout (Llauró et al., 2023). Conversely, poor career choices are a significant cause of dropout. A study included in this review found that 51.2% of students reported choosing the wrong profession (Marte Espinal & Fabián V, 2021); therefore, the lack of adequate career guidance can also lead students to perceive their education as irrelevant to their future careers, resulting in early abandonment of their studies.

A study comparing university dropout rates between Spain and Colombia found that students' disconnection from their studies, due to a lack of guidance, results in higher dropout rates (Guerrero & Espejo, 2024). Other research indicates that insufficient vocational guidance can lead to a lack of commitment and, ultimately, to dropout (Garcés-Prettel et al., 2024; Valencia-Arias et al., 2023). Additionally, the impact of social integration and family background also influences both students' commitment to their studies and their decisions to drop out (Lázaro Alvarez et al., 2020).

Academic Performance is also a critical and determining factor in university dropout. The studies included in this work show that students with higher grade point averages are at a lower risk of dropping out, both for native and international students; thus, it can be deduced that academic performance plays a crucial role in preventing dropout (Thies & Falk, 2024). However, even students with high grade point averages, when facing emotional problems, cultural disconnection, lack of motivation, or even the perception of academic content as too simple and easy, can exhibit high dropout rates even in highly selective study programs (Thomsen, 2022). This finding suggests that academic performance, although important, is not the only factor influencing student retention.

As previously mentioned, academic performance is not only related to grades but also to students' self-concept in specific subjects. For example, a study found that self-concept in mathematics is positively related to academic achievement, which in turn reduces the likelihood of dropout (Geisler et al., 2023). Conversely, low academic performance can lead to a lack of commitment and, ultimately, to dropout, especially when students are not diagnosed in time or do not receive adequate academic support (Gonzales Lopez & Evaristo Chiyong, 2021).

Likewise, academic integration, such as strong bonds with peers and institutional commitment, is associated with a lower likelihood of dropout. Students who feel integrated into their academic environment are less likely to abandon their studies (Wagner et al., 2024). However, when these students exhibit low academic performance, including learning difficulties and low grades, it becomes one of the main causes of student dropout. They may feel demotivated and decide to leave (Castro-Martínez & Machuca-Téllez, 2023; Garcés-Delgado et al., 2024).

On the other hand, traditional teaching methods that fail to engage students can lead to feelings of failure and the decision to drop out of university (Santos-Villalba et al., 2023). It is also worth considering study habits and the amount of time students dedicate to this activity; as is known, nonexistent, inadequate, and ineffective study habits are correlated with low academic performance, which in turn leads to higher student dropout rates (Candelario Navarrete et al., 2024; Llauró et al., 2023). This emphasizes the need and importance of including pedagogical techniques in study programs that foster engagement and active participation of students in their learning process. Otherwise, low academic performance, lack of understanding of content, and even failing exams could be causes of school dropout (Guerrero & Espejo, 2024; Kabashi et al., 2022).

Regarding Socioeconomic Status, financial problems stand out as a significant cause of school dropout, as a better financial situation is related to a higher probability of academic success and a lower risk of dropout (Thies & Falk, 2024). In this context, economically disadvantaged students are about 15 percentage points more likely to drop out compared to their peers with better economic conditions, even after accounting for other factors such as grades in previous educational stages (Thomsen, 2022).

Most of the studies included in this research suggest that economic difficulties are one of the main causes of school dropout. Under this premise, students often leave school due to financial constraints, the need to work, or family responsibilities (Candelario Navarrete et al., 2024; Gonzales Lopez & Evaristo Chiyong, 2021). This situation must be observed with caution because employment opportunities during the early years of study can distract students from their academic responsibilities, making it difficult for them to interact with their peers and professors, thereby increasing

dropout rates (Kabashi et al., 2022). Therefore, factors such as financial pressures and the eventual need for some students to economically support their families are critical causes affecting student retention (Guerrero & Espejo, 2024).

On the other hand, the lack of technical and technological resources necessary for online learning also influences the decision to drop out. This situation gained significant momentum with the onset of the COVID-19 pandemic, where many students worldwide were forced to leave their studies for this reason (Pertegal-Felices et al., 2022). Additionally, students from lower socioeconomic backgrounds, especially those facing food insecurity, are also prone to dropping out. When these students face severe food insecurity, their likelihood of dropping out more than doubles, making these factors key contributors to increasing dropout rates (Wagner et al., 2024). Furthermore, limited access to scholarships and financial support also influences school dropout rates. Students from lower socioeconomic backgrounds or those who do not receive adequate financial support for their studies are at a higher risk of dropping out (Llauró et al., 2023; Marte Espinal & Fabián V, 2021).

Regarding Institutional Aspects, satisfaction with study programs, integration into the academic environment, and the good reputation of the university are critical factors that reduce the likelihood of school dropout, especially among international students (Thies & Falk, 2024). In Denmark, for example, the lack of elite universities leads the most advantaged students to seek out specific prestigious programs, thereby increasing dropout rates. This is because social selectivity depends more on a specific study program than on the perception of any particular institution (Thomsen, 2022).

Additionally, the transition from regular basic education to higher education, as well as the nature of university programs (especially when they do not meet students' expectations), can significantly influence dropout rates. For example, the difference in cognitive demands between school and university mathematics can lead to dissatisfaction and dropout (Geisler et al., 2023). Therefore, a positive transition to university life and effective tutoring actions can significantly reduce the likelihood of students dropping out (Llauró et al., 2023). Other institutional factors such as the quality of support services, modular design, and faculty guidance also have a significant impact on dropout rates. Effective institutional support and well-designed curricular experiences can help reduce dropout rates by keeping students engaged and supported (Gonzales Lopez & Evaristo Chiyong, 2021).

Similarly, educational institutions, especially those of higher education, must develop better resilience strategies and support networks to help students cope with emerging crises such as the COVID-19 pandemic (Pertegal-Felices et al., 2022). During this period, the lack of institutional adaptation, coupled with outdated technological infrastructures, spiked student dropout rates. Additionally, factors such as class duration and ineffective or inadequate student tutoring systems were associated with higher dropout rates, highlighting the need for better institutional support (Wagner et al., 2024).

On the other hand, inflexible curricula and insufficient academic advising can lead to school dropout, as students may feel unsupported and unable to balance their studies with other responsibilities (Castro-Martínez & Machuca-Téllez, 2023). The results of this review also indicate that the quality of education, the lack of commitment from educators, and outdated educational policies contribute to exacerbating dropout rates (Santos-Villalba et al., 2023).

Finally, institutions that do not provide a conducive and engaging environment contribute to higher dropout rates (Guerrero & Espejo, 2024). Likewise, those with rigid or inflexible institutional policies can also lead students to abandon their studies (Candelario Navarrete et al., 2024; Félix Ibarra et al., 2023; Kabashi et al., 2022). Therefore, collaboration between directors, administrators, professors, and students is essential to effectively address the issue of university dropout (Galve-González et al., 2023; Garcés-Prettel et al., 2024; González Sanzana & Arce Secul, 2021; Valencia-Arias et al., 2023).

Conclusions

Vocational Guidance plays a crucial role in reducing university dropout rates. The contributions of these researchers demonstrate that providing adequate career guidance can help students make informed decisions, aligning their interests and abilities with their professional goals, which in turn increases their motivation and commitment to their studies.

Academic Performance is a crucial factor in preventing university dropout. Scientific evidence indicates that students with better grades have a lower risk of abandoning their studies. However, additional factors such as academic support, integration into the university community, and socioeconomic challenges also play a significant role. Addressing these areas through targeted interventions can improve student retention and reduce dropout rates.

Regarding Socioeconomic Status, factors such as family socioeconomic level and economic pressure significantly influence dropout rates. Economic challenges are a common reason why students leave their studies. Research included in this investigation has shown that there is a correlation between financial aid and dropout rates, as students who receive financial assistance are less likely to abandon their studies, especially at the beginning of their university education.

Finally, Institutional Aspects are fundamental in preventing university dropout. Factors such as the quality of support services, social and academic integration, and appropriate educational policies can significantly improve student retention. Scientific evidence suggests that a comprehensive strategy that includes strong institutional support and mentoring programs can reduce dropout rates and ensure students' academic success.

Registration and protocol

PROSPERO: ID: 565816, Title: University Dropout: A Systematic Review of the Main Determinant Factors.

Data availability

Underlying data

All data underlying the results are available as part of the article and no additional source data are required.

Extended data

Reporting guidelines

Zenodo: University dropout: A systematic review of the main determinant factors. https://doi.org/10.5281/zenodo. 13117695 (Quincho Apumayta et al., 2024).

This project contains the following underlying data:

- 01 PRISMA_2020_checklist.pdf
- · 02 Search strategies for all databases, and main results.pdf

Data are available under the terms of the Creative Commons Attribution 4.0 International license (CC-BY 4.0).

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Open Peer Review

Current Peer Review Status:





Version 2

Reviewer Report 13 November 2024

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Enaidy Reynosa Navarro 🕛



Universidad Cesar Vallejo, Trujillo, La Libertad, Peru

I have no further comments to make. I am fully satisfied with the revisions made by the authors following the completion of the first round of review. The improvements have addressed all previous concerns effectively

Competing Interests: No competing interests were disclosed.

Reviewer Expertise: Education and Educational Quality, Quality Education, and Education Administration

I confirm that I have read this submission and believe that I have an appropriate level of expertise to confirm that it is of an acceptable scientific standard.

Reviewer Report 13 November 2024

https://doi.org/10.5256/f1000research.174226.r339843

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Nicole Caldichoury-Obando (1)



Universidad de Los Lagos, Osorno, Los Lagos Region, Chile

The current version of the article has incorporated the suggestions, therefore, it has clarified several aspects, being approved.

Competing Interests: No competing interests were disclosed.

Reviewer Expertise: Psychologist, Master's Degree in Education with a Mention in Educational Guidance. Neurosciences applied to education. Neurodevelopmental disorders and special education.

I confirm that I have read this submission and believe that I have an appropriate level of expertise to confirm that it is of an acceptable scientific standard.

Version 1

Reviewer Report 30 September 2024

https://doi.org/10.5256/f1000research.169265.r317129

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? Nicole Caldichoury-Obando 🗓

Universidad de Los Lagos, Osorno, Los Lagos Region, Chile

The objective of this article is to systematize the scientific evidence on the causes of university dropout, focusing on the subcategories of vocational orientation, academic performance, socioeconomic level, and institutional aspects between the years 2020-2024. Regarding the method, it is not clearly defined, but it is inferred that it is of the theoretical or bibliographic research type with primary sources of information, where scientific articles published in indexed journals were used.

The main conclusions are related to the relevance of generating vocational guidance processes to reverse university dropout, along with considering early warnings regarding university academic performance, since it is considered a good predictor of the successful university trajectory, it is also necessary to be able to count on academic and financial support to achieve greater integration and adherence to university life.

In general terms, the article is clear and consistent with respect to the title, objectives, base question and keywords. It has a structure that contributes to the achievement of the objective and the proposed results, where updated bibliographic sources are cited, reaching logical conclusions. However, certain methodological procedures must be clarified in order to be able to replicate the study and provide foundations for the relevance of the study. Below are the details and topics to be improved:

1.- Title

Strengths (S): Clear and precise.

Limitation (L): As a suggestion add the years 2020-2024.

2.- Summary

S: It provides a synthesis of the causes of university dropout between 2020-2024 in categories and subcategories, informs the number of selected scientific articles.

L: Clarify and state the scientific method used and the search techniques used.

3.-Introduction

S: Context and review with references to studies. They mention university dropout as a multifaceted problem in which several factors influence. Inadequate vocational guidance, low academic performance, along with socioeconomic level as critical determinants, are alluded to, in addition to institutional aspects such as the academic environment and institutional support, motivation, self-esteem and frustration are also included. The basic question and objective are clear.

L: It is important to mention all the key factors of university dropout, accompanied by their respective citations, as part of the justification.

Clearly explain why it is relevant to study university dropouts, providing figures such as the number of students affected, and/or the amount of money involved.

School dropout vs. university dropout, only focus on a standard term, since they are different age ranges and it is confusing.

4.- Methodology

S: They declare a method with inclusion and exclusion criteria, in addition to the sources of information and the time spent, tables are provided with search strategies and data extraction. Regarding the synthesis method, they mention a data matrix with the inclusion criteria, title, reference, year of publication, categories, subcategories, and the method used.

L: The method indicates the title of an article and its author (Page et al., 2021), but does not declare the method. After reviewing the cited article, it is clear that they are guided by PRISMA 2020 criteria, but it is necessary to declare it.

Within the inclusion criteria, concerns arise regarding whether they considered articles only in Spanish, English or in all languages, the studies were carried out in public or private universities, with what number of students, and the results of the studies reviewed.

Regarding the selection of the studies, where Table 1 is attached, they must mention these data, refer to the criteria on which they worked to clean the data. And mention how many articles were excluded and why.

In the data extraction, they do not mention the results of the studies reviewed, which they refer to later in the results section.

In a list of data, they declare them, but it is necessary to provide a table.

Risk of bias assessment in individual studies, cites the title of 2 articles and their authors (Aráoz Cutipa & Pinto Tapia, 2021; Salvador-Oliván et al., 2021), it is considered pertinent to be precise and indicate the criteria.

Regarding the synthesis method, they mention a data matrix, but how many subjects participated in the studies (quantitative and qualitative), what techniques they worked with, the gender of the participants, country, language, results.

5.- Results

S: Finally, they mention the selection of 23 studies (15 quantitative, 3 qualitative and 5 mixed) according to their search criteria, where all meet the categories of socioeconomic level and institutional aspect and 86% with academic performance and 73.91% with vocational orientation. Data are provided on other interesting components of these categorizations such as motivation, commitment, bonds with peers, self-concept, learning difficulties, study habits, teaching methods, technological resources, among others.

L: Include the table with the data of the 23 studies reviewed in the declared criteria, including their

results and conclusions.

6.- Conclusion

S: Importance of focusing on vocational guidance in order to avoid university dropout. Academic performance, socioeconomic level, and institutional aspects are linked as relevant elements to prevent university dropout.

It has registries and protocols, as well as underlying data.

L: Use the term dropout rather than abandonment for internal coherence, if they refer to the same thing, otherwise clarify it.

What was the limitation of the study, indicate.

The study was funded.

There are or are not conflicts of interest.

Conclusion of the article: It has a logical structure that they develop, but they must improve the points indicated, completing and/or clarifying information, the delivery of tables with the data will help to clear doubts and will deliver value to their work for its replicability.

Approval status: Approved with reservations. The article has sufficient merits for indexing, as explained, it is coherent in the topics it wishes to explore. However, certain adjustments are required to enhance what has been done.

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Are the rationale for, and objectives of, the Systematic Review clearly stated? Yes

Are sufficient details of the methods and analysis provided to allow replication by others? Partly

Is the statistical analysis and its interpretation appropriate?

Yes

Are the conclusions drawn adequately supported by the results presented in the review? Partly

If this is a Living Systematic Review, is the 'living' method appropriate and is the search schedule clearly defined and justified? ('Living Systematic Review' or a variation of this term should be included in the title.)

Not applicable

Competing Interests: No competing interests were disclosed.

Reviewer Expertise: Psychologist, Master's Degree in Education with a Mention in Educational

Guidance. Neurosciences applied to education. Neurodevelopmental disorders and special education.

I confirm that I have read this submission and believe that I have an appropriate level of expertise to confirm that it is of an acceptable scientific standard, however I have significant reservations, as outlined above.

Reviewer Report 12 September 2024

https://doi.org/10.5256/f1000research.169265.r317134

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Enaidy Reynosa Navarro 匝



Universidad Cesar Vallejo, Trujillo, La Libertad, Peru

The rationale and objectives are clearly stated. This systematic review focuses on understanding the causes of university dropout, with an emphasis on vocational quidance, academic performance, socioeconomic status, and institutional factors during the period from 2020 to June 2024.

The review also provides sufficient details on the methods and analysis, enabling replication by other researchers. The inclusion criteria are clearly specified (studies published between 2020 and 2024, standardized methodological approaches), as well as the databases used (Scopus, Web of Science, Google Scholar) and the search strategy (using specific descriptors such as "university dropout" and related terms). Additionally, the study selection process is detailed, including independent review by two authors and manual data extraction to ensure accuracy. An interesting aspect is that, to assess the risk of bias in qualitative studies, the validity criteria for qualitative research proposed by experts (Aráoz Cutipa & Pinto Tapia, 2021) were used. For quantitative studies, the criteria proposed in the research "Assessment of Survey-Based Research in Articles Published in Library Science Journals" (Salvador-Oliván et al., 2021) were followed, evaluating survey design and data analysis. For mixed-method studies, both approaches were combined. All these steps ensure that the study can be effectively replicated.

Statistical analysis was not conducted in this systematic review because, being based on the PRISMA protocol, its main focus was the collection, evaluation, and synthesis of existing studies, rather than a meta-analysis, which would require direct statistical analysis. The applied PRISMA protocol focused on ensuring transparency and comprehensiveness in the literature review through rigorous study selection, risk of bias assessment, and qualitative synthesis of findings, providing essential information for preventing university dropout.

The conclusions are clearly supported by the review's findings. The research demonstrated, through the analysis of 23 studies, that vocational guidance, academic performance, socioeconomic status, and institutional factors are critical determinants in university dropout. These conclusions reflect a coherent synthesis of the findings, highlighting the need to implement specific interventions in these areas. It is recommended that educational institutions strengthen these aspects, providing adequate vocational guidance and financial support to significantly reduce student dropout and improve academic retention.

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Are the rationale for, and objectives of, the Systematic Review clearly stated? \forall_{PS}

Are sufficient details of the methods and analysis provided to allow replication by others? γ_{es}

Is the statistical analysis and its interpretation appropriate? Not applicable

Are the conclusions drawn adequately supported by the results presented in the review? Yes

If this is a Living Systematic Review, is the 'living' method appropriate and is the search schedule clearly defined and justified? ('Living Systematic Review' or a variation of this term should be included in the title.)

Not applicable

Competing Interests: No competing interests were disclosed.

Reviewer Expertise: Education and Educational Quality, Quality Education, and Education Administration

I confirm that I have read this submission and believe that I have an appropriate level of expertise to confirm that it is of an acceptable scientific standard.

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