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Academic Failure and Dropout: Untangling Two Realities

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Abstract: Academic failure and school dropout, or early school leaving, are two of the situations that most concern countries and educational institutions worldwide, because of their prevalence and also their economic and social implications. Despite this prominent role that academic failure and school dropout have in societies, there seems to be no consensus on the literature on their conceptualization, definition, and relationship. Moreover, it is frequent to observe how both concepts are confused or overlap in the scientific literature and how many authors avoid defining these constructs, using them indistinctly. Therefore, this work analyses whether educational research considers them as two different concepts or if they are used indistinctly. For this purpose, 2,051 keywords from 450 articles were subjected to a systematic review and classified into the Education Resources Information Center (ERIC) thesaurus´ descriptors. The results reveal statistically significant differences in the descriptors according to the type of paper to which they correspond (academic failure or dropout). Thus, academic failure is associated with sociocultural, personal, and academic factors, while dropout is linked to employment and educational trajectories. These differences evidence that, although academic failure and school dropout refer to closely related educational problems, there are remarkable differences between them and between the treatment given to each of them in the scientific literature. Therefore, they should be considered as two different concepts. For all this, keyword analysis has proved to be a relevant element for the study of the structure of knowledge, allowing to clearly establish the differences between the two closely related concepts.

Keywords: *Academic failure, bibliometric analysis, dropouts, keyword analysis, systematic review.*

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Introduction

Academic failure and school dropout, or early school leaving, are two of the situations that most concern countries and educational institutions, because of their prevalence and also their economic and social implications (Romero Sánchez & Hernández Pedreño, 2019). These implications refer to aspects such as access to employment, disposable income, and quality of life of the people who experience them, as well as to the social cohesion and economic growth of the countries (European Commission, 2019; Organisation for Economic Co-operation and Development [OECD], 2008, 2012). Both problems are linked to a disengagement of students from education (Bergdahl et al., 2020), but their proper delimitation and differentiation is a complex task because of the multitude of perspectives from which they are approached (Soares & Almeida, 2019).

Academic failure can be defined as an educational problem related to the lack of acquisition of basic skills or competencies by a student (Field et al., 2007) which, as Delors (1996) stated, are those that allow people to function adequately in society. This situation is linked to poor performance, which can lead to students showing a low interest in learning, having low academic aspirations and goals, or developing a poor self-concept (Hwang et al., 2014).

However, while insufficient educational outcomes are a common denominator in the definitions of academic failure, reaching agreement on how to prove these results can be complex. Some conceptions link academic failure to both not obtaining a compulsory or post-compulsory secondary education diploma and others, to low academic performance. In this vein, Martínez García (2009) distinguishes between academic failure related to the inability to reach an adequate level of competence and that linked to the impossibility of obtaining a diploma (administrative academic failure). According to Pascual Barrio and Amer Fernández (2013), the existence of these two conceptualizations is due to the fact that the term has been constructed in the field of public policy. In this sense, identifying academic failure with the

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non-obtaining of a diploma simplifies the use of the concept, but presents the disadvantage that it does not allow for a deeper understanding of the level of knowledge, capabilities and skills or competences of the students who suffer it (Martínez García, 2009). Therefore, academic failure can be evidenced through various situations of underachievement at any educational level, from low academic results to grade repetition or not obtaining a compulsory secondary school diploma.

On the other hand, school dropout is a less wide-ranging term which can be explained as a student's action of withdrawing from school before completing secondary education, having specific definitions depending on how such dropout rates are calculated (Clandinin et al., 2013). Thus, in the European Union, school dropout refers to the situation affecting the population between 18 and 24 years of age who have not completed any type of post-compulsory secondary education and who are not enrolled in any other type of training (European Commission et al., 2014). Meanwhile, in the United States there are two approaches to school dropout: one that covers students between the ages of 16 and 24 who are not enrolled in the educational system and who have not obtained a high school diploma or an alternative diploma (status dropout rate) and another that covers students between the ages of 15 and 24 who are enrolled between tenth and twelfth grade of high school and have dropped out during a particular academic year (event dropout rate) (National Center for Education Statistics, 2022a, 2022b). As evidenced, in opposition to academic failure, school dropout does have official definitions.

As can be seen, regardless of the definition of early school leaving adopted, this concept is linked to a withdrawal from the educational system that may be the result of processes of academic failure or progressive disengagement that occur before obtaining a post-compulsory diploma (Dupéré et al., 2015). Therefore, the routes of failure may act as symptoms prior to school dropout, which is conceived as an outcome of the process. This is evidenced, for example, by the fact that regardless of the different indicators used to measure academic failure and school dropout in different countries, it is common for their linkage to be explained through a cause-and-effect relationship in which academic failure is presented as a precursor to school dropout that begins to emerge in the early stages of education, as opposed to the latter concept, which occurs in secondary education (Ajjawi et al., 2020; Carreira & Lopes, 2018; Kaplan et al., 1997; Stearns & Glennie, 2006).

However, there may also be situations where early school leaving is not a result of previous academic failure. As early as the 1970s, Tinto (1975) proposed a differentiation between dropout caused by academic failure and that produced by voluntary withdrawal without the presence of previous academic failure; a distinction later corroborated by authors such as Simpson et al. (1980) and maintained by Bowers and Sprott (2012). For his part, Marchesi (2003) stated that academic failure should not be reduced to obtaining a compulsory secondary education diploma since, although the majority of students who leave this stage without obtaining the corresponding diploma present academic failure, this is not always the case. Similarly, it is possible to finish compulsory secondary education, obtaining the corresponding diploma, and then drop out months later without being able to continue on to higher educational levels.

For all that, academic failure is linked to poor academic performance and a lack of life skills. It is a process that negatively affects those who suffer it, but it can be reversed. Meanwhile, school dropout, regardless of the educational level at which it occurs, is conceptualized as a final result of the disengagement from education that does not necessarily imply low academic achievement.

Despite this conceptual differentiation, there is no consensus on the definitions of these terms and it is frequent to observe how both concepts are confused or overlap in the literature. In this regard, it is surprising how many authors avoid defining these constructs, using the term academic failure to refer to school dropout, leading to even more confusion (Martínez-Otero, 2009). Thus, some authors refer to academic failure and school dropout indistinctly (Antelm Lanzat et al., 2018; Fernández Batanero, 2011; Fernández González & Rodríguez Pérez, 2008; Gil López et al., 2018; Lorenzo Socorro et al., 2015; Sarra et al., 2019; Valkov, 2018), while others consider early school leaving as a problem framed in academic failure, presenting it as one of its components or indicators (Mora et al., 2010; Pérez-Esparrells & Morales Sequera, 2012; OECD, 2012; Rojas-Barreto & Artunduaga-Cuellar, 2018; United Nations Educational, Scientific and Cultural Organization [UNESCO], 2022; Vaquero García, 2005). In this sense, Staiculescu and Richiteanu-Nastase (2018) consider dropout as an extreme manifestation of failure. On the other hand, authors such as Álvarez and Vidal (2013) opt for a global interpretation of academic failure, explicitly avoiding to make a distinction with the different types of dropouts. And from the opposite point of view, Kiran and Javaid (2020) come to see dropout as one of the antecedents of academic failure.

The above situation justifies the present work, which has as its main objective to analyze if academic failure and dropout are considered and treated as two different concepts in the field of educational research or if, on the contrary, an indistinct use of both terms is made. To this end, a bibliometric analysis of the keywords which appear associated with each of the two concepts in the scientific literature that has been published on this subject was conducted. A secondary objective of this work aims to provide an updated panorama of scientific production on academic failure and dropout at an international level.

The article is structured according to the following sections: first, the procedure used in this work, characterized by the systematic analysis of the keywords in the articles, is theoretically justified. Next, we give a detailed description of the

procedure followed to search for articles, classify these keywords according to terms extracted from the Education Resources Information Center (ERIC) thesaurus, and analyze the results. In the third section, we present the results of the study, discuss these results, and present the conclusions, suggestions, and limitations drawn from them.

Research of Studies Through Systematic Keyword Analysis

A keyword is a meaningful word –in other words, one that is not empty– related to the author's use of natural language. Generally, keywords are common nouns; however, they can belong to any grammatical category, such as proper nouns, adjectives, and even verbs. Unlike descriptors, which are standardized terms that uniquely represent a concept, keywords can have different interpretations depending on who considers them and on the context in which they are found. Although both concepts, keyword and descriptor, may have the same objective –to facilitate indexing and searching the original document–, the main difference between them is related to the fact that the authors do not always know or choose to use the preferred term and may opt for any other synonym they consider more appropriate (Arranz, 1995). Therefore, the relationship between keywords and descriptors is not always total. In fact, considering the purpose for which they were created, this similarity does not necessarily have to exist.

In a study conducted by Gil-Leiva and Alonso-Arroyo (2005) on the correspondence between both elements –the databases´ descriptors and the keywords provided by the authors–, it was observed that there was a correspondence of around 60% when a minimum standardization of the words was performed. Meanwhile, when conducting a more rigorous analysis of this correspondence, establishing exact matches, the percentage decreased to 30%. This percentage is coherent with the consideration of this inconsistency not as something anecdotal, but rather constant in the various studies on consistency in indexing (Soler Monreal & Gil-Leiva, 2011).

Although not many works take keywords as a measure of analysis, an increasing number of studies use the interpretation and relationship of these words to analyze the relationship between the authors, their citations and the impact (Tsay, 2011). Also, longitudinal studies use keywords to observe trends and changes in a specific topic (Choi & Kang, 2014).

In particular, keyword analysis has begun to be especially relevant in recent year for the study of networks between words aimed at discovering patterns of meaningful knowledge (Radhakrishnan et al., 2017). In addition, studies using keywords as a measure of analysis of the preferences and evolution of educational research are also relevant in the analysis of picture books as a measure of trends in use in education (Wu, 2018), the research into models and applications in gamification (Bozkurt & Durak, 2018), the trend analysis on computational thinking (Tang et al., 2020), the bibliometric studies on educational leadership (Gümüş et al., 2019), or the applications in new contexts on data visualization (Bratt, 2018).

Keyword studies are often complemented by graphic representations of the words through word clouds representing their frequency (Calle-Alonso et al., 2018) or their relationship to each other (co-words). In this vein, the latter is an appropriate complement that allows visualization of the words that are most frequently matched, identifying new topics. Also, it is considered an effective technique for content analysis (Cobo et al., 2011).

Methodology

Research Design

In order to guarantee the rigor and systematization of the whole process, the procedure followed has been structured in different phases. In the first phase, the keyword search terms to be included in the search equation of the articles were determined. Said terms were extracted from the ERIC thesaurus, as the reference thesaurus in the field of education. As shown in Table 1, they referred to both academic failure and dropout. At this point it is important to clarify that we selected these concepts in their broadest sense. Furthermore, it should be noted that, as "school dropout" does not appear in the ERIC thesaurus, it was not considered as a search term.

Table 1. Search Terms Identified and Selected

Academic failure	Dropout
Academic failure Grade repetition Underachievement	Withdrawal Dropout (drop-out, drop out, dropping out) Out of school youth Student attrition

In the second phase, the search of articles was performed in the categories Education Educational Research, Social Sciences Interdisciplinary and Education Special of the databases Social Science Citation Index (SSCI) and Emerging Science Citation Index (ESCI) of the Web of Science (WoS). The search field was the "article title" and no time limit was set. The article title was established as the search field to allow to subsequently associate the keywords of the articles with their topic (academic failure or dropout), identified in their title. The search equation used was "Academic failure"

OR "Grade repetition" OR "Underachievement" OR "Student attrition" OR "Withdrawal" OR "Dropout" OR "Drop-out" OR "Drop out" OR "Dropping out" OR "Out of school youth".

As a result of this search process, a total of 1,020 articles were obtained. It should be noted that the search was not conducted in ERIC because this database does not allow retrieval of the author's keywords. At the same time, WoS contains the most relevant publications worldwide (Wu, 2018) and has the oldest and most complete records of citation indexes (Ellegaard & Wallin, 2015), which allowed access to a high number of quality publications on the topic under study.

Of the total number of articles found, 68 papers that did not focus on academic failure or dropout of students in formal education were excluded (e.g., they referred to teacher dropout, sports dropout, treatment dropout, or Massive Online Open Courses dropout), reducing the sample to 952 articles. Said 952 articles were classified according to whether, in accordance with the search terms used, the title made explicit reference to academic failure (N = 182), dropout (N = 752), or both (N = 18).

In line with the objective of this work, the 493 papers that did not provide keywords were then excluded. From the resulting selection, 9 articles which contained both concepts in their title ("academic failure" and "dropout", or any of their synonyms used as search terms) were also excluded, as they did not allow to conduct the subsequent associations between title and keywords. In this way, 2,051 total keywords from 450 scientific articles were finally analyzed. Figure 1 summarizes the procedure followed.

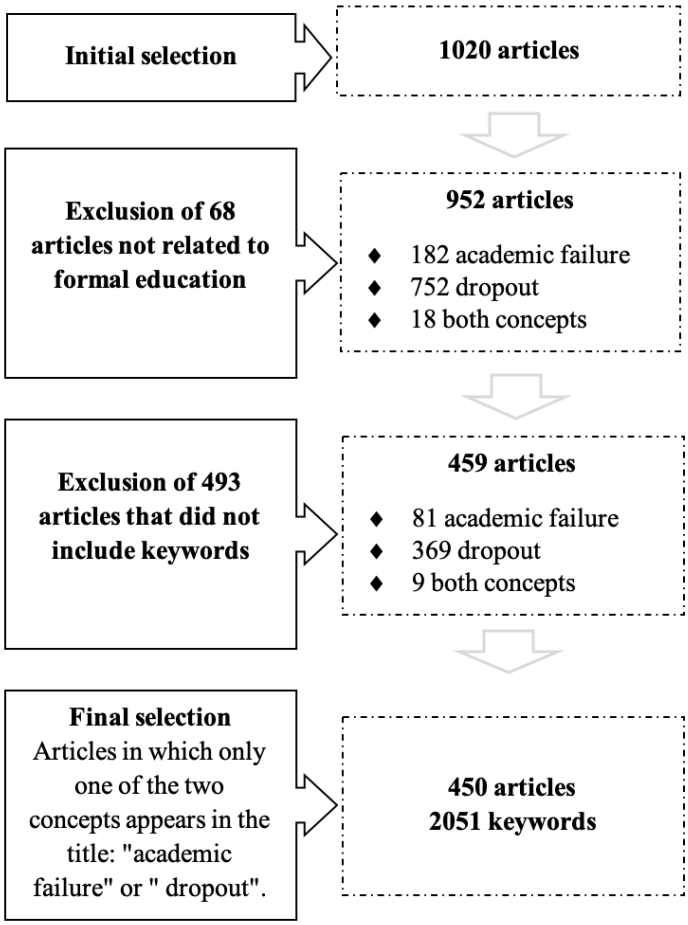

Figure 1. Procedure Followed in the Search of Articles

The third phase of the procedure required summarizing and categorizing the 2,051 keywords through their classification according to descriptors extracted from the ERIC thesaurus. ERIC is an educational database of international reference developed by the Department of Education and managed by the National Library of Education in the United States. The thesaurus in the ERIC database contains more than 4,500 descriptors which are used to describe the theme of the documents indexed in this information source; these are standardized terms that facilitate the search for educational information. The following procedure was established to classify the keywords of the articles according to the ERIC thesaurus descriptors:

(1) Three researchers independently classified the first 200 keywords, obtaining an agreement rate of about 70% (68.82%). After that initial review, the descriptors for the consequent classification of the keywords were identified (see Appendix).

(2) Based on these descriptors, two researchers classified the remaining 1,851 keywords, with an agreement rate of 74.05%. The keywords on which there was no agreement were reviewed by a third researcher. The described process allowed 99.12% of the keywords to be classified and the remaining 0.87% (18 keywords), on which there was no agreement, were assigned to the category "Others". It should be noted that in cases where the meaning of a keyword was not explicit, the content of the articles was accessed to clarify its meaning.

Analyzing of Data

In the fourth phase, the information collected was analyzed. Firstly, with the aim of providing a general overview of the scientific production in this subject, a descriptive study was conducted of the main identification data (year of publication, language, and country of the corresponding author) of the 952 articles included in the initial selection.

Next, in order to address the main objective of this work, an inferential perspective was adopted to search for significant differences in the descriptors associated with the keywords of the articles, depending on whether these articles focused on academic failure or dropout. This was done by applying the Chi-Square test. In addition to the test statistic, the adjusted standardized residuals were calculated to determine cases in which the observed frequencies were significantly higher (residuals greater than 1.96) or lower (residuals smaller than -1.96) than expected.

Finally, the study was completed with the well-known bibliometric maps, or maps of science, using the VOSviewer tool (Van Eck & Waltman, 2010), which allowed to make a labelling map where each descriptor is represented by a label and circle, being its size proportional to its weight. Word groupings are also shown in different colors. It is important to note that, although the VOSviewer tool is generally used to represent the keyword network, in this case, the networks of the descriptors associated with those keywords are represented.

Results

As explained above, first, the main characteristics of the 952 articles published on this topic and indexed in the WoS are presented in this section. Figure 2 shows that the interest in this subject seems to have awaken during the first years of the 21st century, particularly from 2005 onwards, increasing considerably during the last decade. Moreover, this interest appears to especially focus on dropout and not so much on academic failure, a term of more recent use.

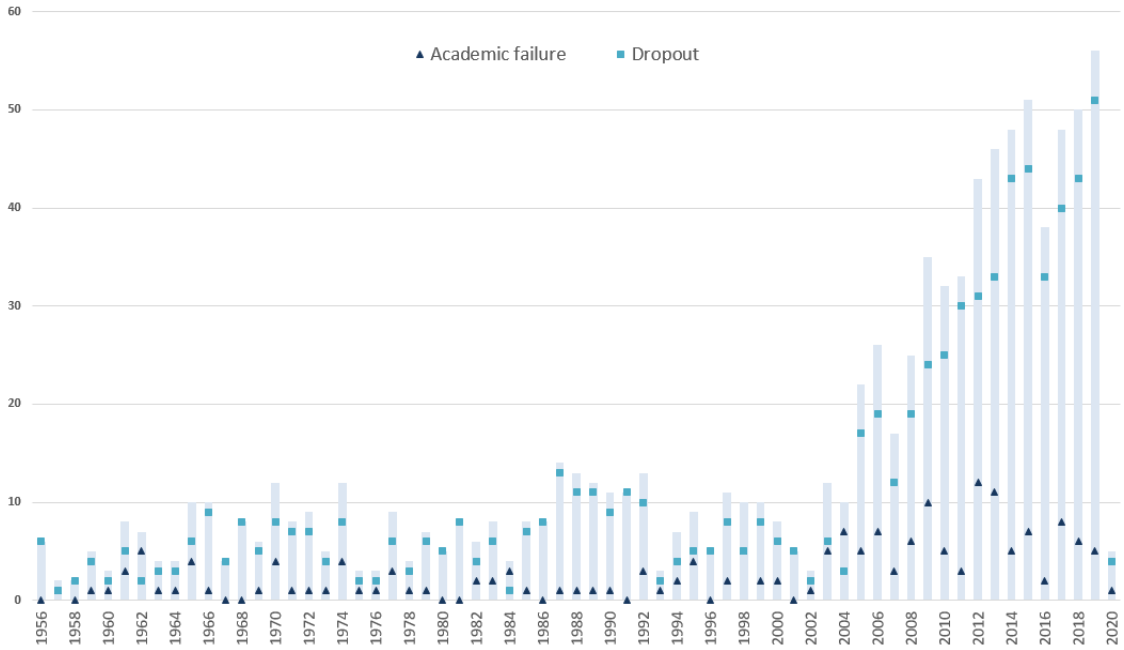

Figure 2. Evolution of Scientific Production on Academic Failure and Dropout in Recent Years

The analysis of the distribution of articles according to the country of origin of the corresponding author (Figure 3) shows that most of the articles are of an Anglo-Saxon nature, although the case of Spain also stands out, as it shows more interest in this field than the surrounding countries. These data are also consistent with those compiled in Figure 4, which represents the language of the articles published and reflects that most articles on academic failure and dropout are published is English, followed in both cases by Spanish.

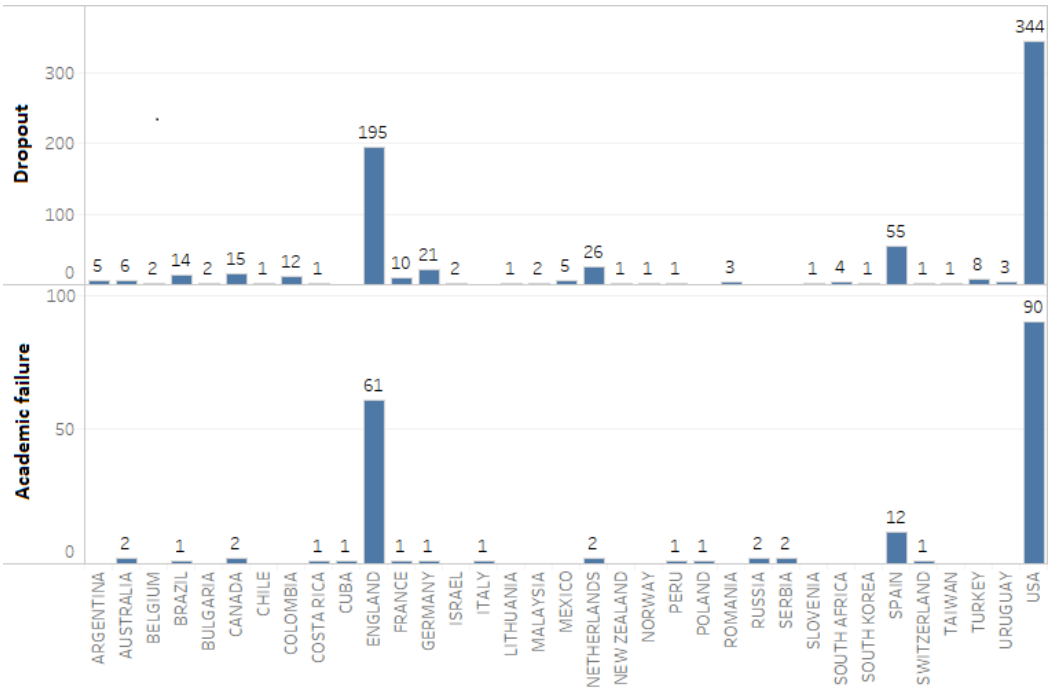

Figure 3. Country of Origin of the Correspondence Author of the Articles Published on Academic Failure and Dropout

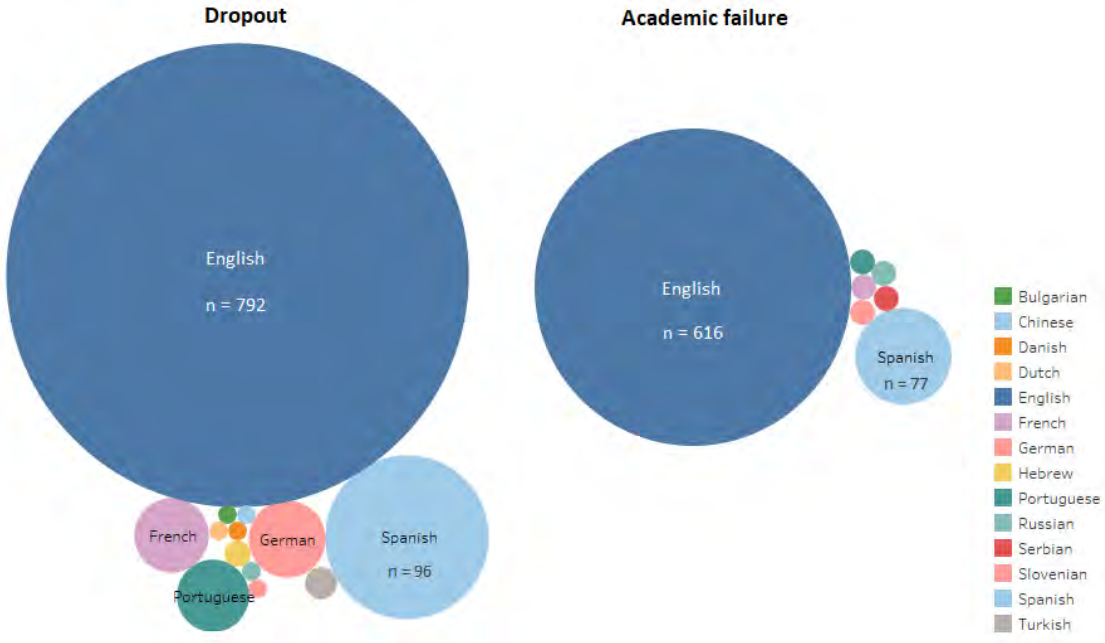

Figure 4. Language of Published Articles on Academic Failure and Dropout

Also, the results of the analysis on the differences between the descriptors associated with the keywords of the articles, depending on whether the title of the papers made explicit reference to academic failure or dropout (or any of their synonyms), is presented. The first column of Table 3 contains the list of descriptors considered (see Appendix), while the successive columns represent the number of times this term was associated with an article linked to academic failure or dropout. The percentages in the following columns indicate the distribution of descriptors in both article categories.

A first look at the results confirms that the descriptor that presents the highest frequency is *dropouts*, which appears 401 times (395 in the articles on dropout, although only 6 in the articles on academic failure). The next most frequent terms are those related to the thesaurus categories *educational levels, degrees and organizations* (n = 196), *research methodology* (n = 177) and *personal factors* (n = 170). Other frequent terms, although to a lesser extent, are *achievement* (n = 94), *geographic regions* (n = 77), and *populations groups* (n = 94). In contrast, the terms that were least frequently classified are *truancy* (n = 7), *grade repetition* (n = 17), *gender issues* (n = 17), and *educational quality* (n = 18).

The analysis of the differences observed in the descriptors according to the type of paper considered (academic failure vs. dropout) shows these differences to be statistically significant (Pearson Chi-Square Test = 351,059; *df* = 34; *p* = 0.002). Considering the values of the adjusted standardized residuals, it is possible to identify descriptors with a higher or lower frequency of appearance than expected. Thus, the descriptors *achievement*, *culture*, *curriculum*, *evaluation*, *grade repetition*, *health*, *learning*, *personal factors,* and *population groups* are more present in the articles linked to academic failure. In the case of articles related to dropout, the descriptors *distance education*, *educational levels, degrees, and organizations*, *employment*, *enrollment*, *graduation* and, as might be predicted, *dropouts* appear more frequently than expected.

Table 2. Descriptors Associated with the Keywords of the Articles on Academic Failure and Dropout

Descriptor	Academic failure (*n*)	Dropout (*n*)	Academic failure (%)	Dropout (%)
Academic degrees	3 (-1.52)	32 (1.52)	0.80%	1.93%
Achievement (*)	59 (11.35)	35 (-11.35)	15.78%	2.11%
Age groups	4 (-0.49)	23 (0.49)	1.07%	1.39%
Culture (*)	7 (2.08)	12 (-2.08)	1.87%	0.73%
Curriculum (*)	11 (2)	24 (-2)	2.94%	1.45%
Distance education (*)	0 (-3.08)	41 (3.08)	0.00%	2.48%
Dropouts (*)	6 (-9.76)	395 (9.76)	1.60%	23.87%
Economic factors	4 (0.3)	15 (-0.3)	1.07%	0.91%
Education	3 (-0.58)	19 (0.58)	0.80%	1.15%
Educational levels, degrees, and organizations (*)	23 (-2.54)	173 (2.54)	6.15%	10.45%
Educational methods	9 (-0.15)	42 (0.15)	2.41%	2.54%
Educational policy	10 (1.08)	30 (-1.08)	2.67%	1.81%
Educational quality	3 (-0.19)	15 (0.19)	0.80%	0.91%
Employment (*)	0 (-2.08)	19 (2.08)	0.00%	1.15%
Enrollment (*)	0 (-2.44)	26 (2.44)	0.00%	1.57%
Equity	5 (-0.64)	30 (0.64)	1.34%	1.81%
Evaluation (*)	15 (3.14)	25 (-3.14)	4.01%	1.51%
Family characteristics	4 (-0.32)	21 (0.32)	1.07%	1.27%
Gender Issues	5 (1.17)	12 (-1.17)	1.34%	0.73%
Geographic regions	14 (-0.06)	63 (0.06)	3.74%	3.81%
Grade repetition (*)	14 (6.83)	3 (-6.83)	3.74%	0.18%
Graduation (*)	0 (-2.34)	24 (2.34)	0.00%	1.45%
Health (*)	8 (2.5)	12 (-2.5)	2.14%	0.73%
Learning (*)	13 (2.88)	22 (-2.88)	3.48%	1.33%
Orientation	6 (-1.41)	48 (1.41)	1.60%	2.90%
Performance factors	5 (0.11)	21 (-0.11)	1.34%	1.27%
Personal factors (*)	54 (4.68)	116 (-4.68)	14.44%	7.01%
Population groups (*)	21 (2.69)	47 (-2.69)	5.61%	2.84%
Research methodology	28 (-0.94)	149 (0.94)	7.49%	9.00%
School organization	11 (-0.14)	51 (0.14)	2.94%	3.08%
Social indicators	8 (0.87)	25 (-0.87)	2.14%	1.51%
Social problems	3 (-0.83)	22 (0.83)	0.80%	1.33%
Teachers	5 (-0.25)	25 (0.25)	1.34%	1.51%
Theory	13 (1.92)	31 (-1.92)	3.48%	1.87%
Truancy	0 (-1.26)	7 (1.26)	0.00%	0.42%
Total	374	1655	100%	100%

Note. Adjusted standardized residuals in parentheses.
Note. The categories "Other" (n = 18) and "Student" (n = 4) were excluded from the analysis.
** Column proportions differ significantly from each other at the .05 level.*

In Figure 5, which represents the co-word map for all the articles on dropout analysed, four groupings or clusters are identified with different colours. First, the red-coloured cluster represents the words grouped around dropout, which are especially linked to educational trajectories (*educational levels, degrees and organizations*, *graduation*, *university degrees*, *orientation*, *enrollment*, *truancy*). In a second grouping, coloured in green, terms referring to contextual factors that explain dropout are mainly identified: *social indicators*, *family characteristics*, *geographic regions*, *economic factors*, *culture*. The grouping coloured in blue stands out mainly for containing elements linked to personal factors (*age groups*, *health*) and learning (*curriculum*, *learning*, *teachers*, *educational methods*). Finally, the fourth node, coloured in yellow, corresponds to terms linked to a macro analysis of the educational system: *theory*, *educational quality*, *achievement*, and *evaluation*.

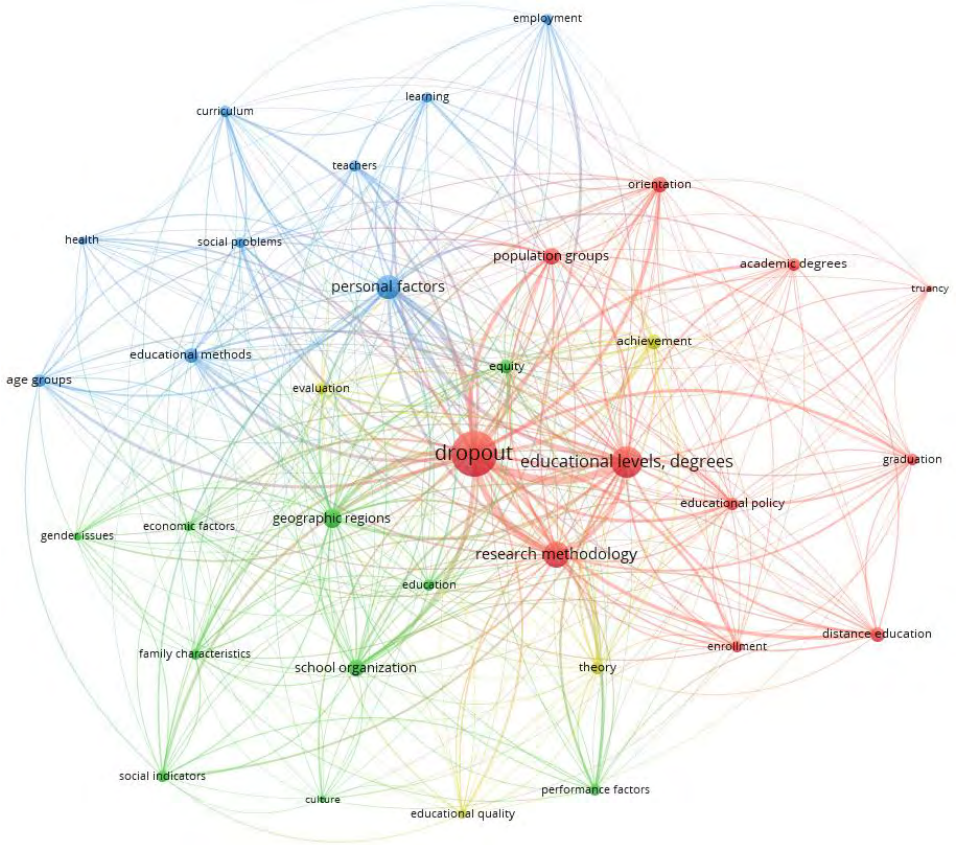

Figure 5. Network of Descriptors for Scientific Papers on Dropout

The co-word map relating to the articles on academic failure (Figure 6) shows descriptors grouped around three clusters. The first one, represented in red, groups terms related to the learning process (*achievement*, *curriculum*, *evaluation*, *orientation*, *grade repetition*, *dropouts*). Meanwhile, the green cluster includes descriptors that refer to the macro (*culture*, *theory*, *social indicators*) and micro context of education (*educational methods*, *school organization*, *teachers*). Finally, the blue cluster contains descriptors associated with the students' individual characteristics (*learning*, *personal factors*, *health*).

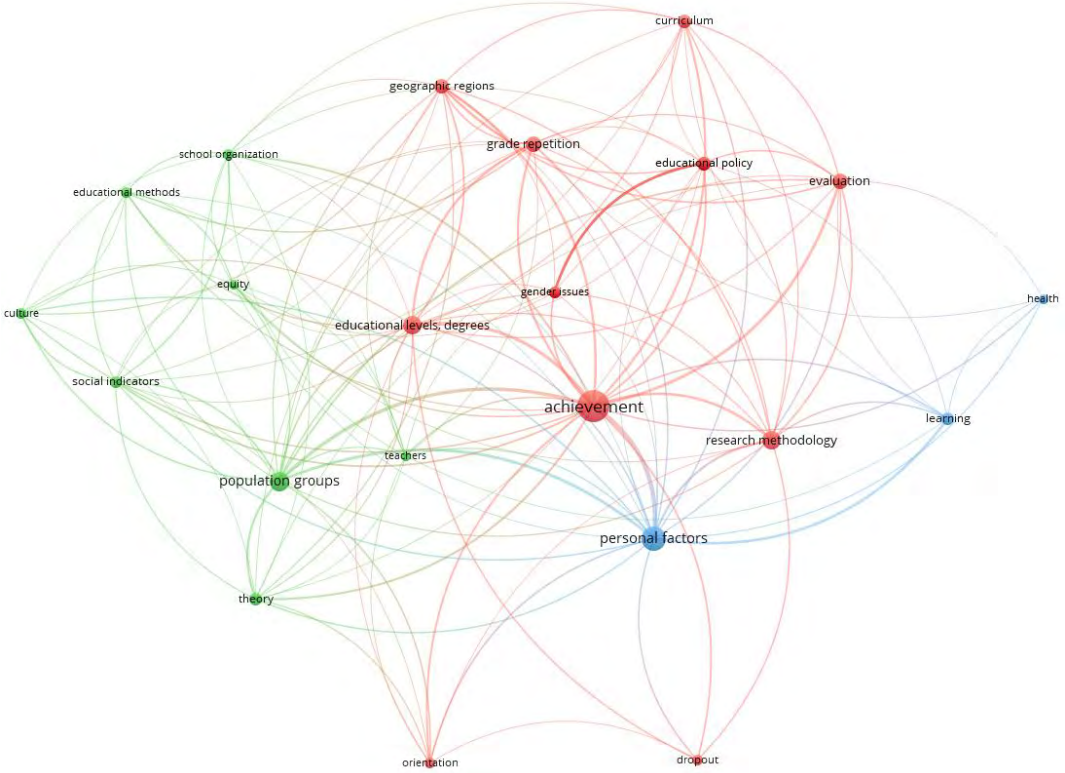

Figure 6. Network of Descriptors for Scientific Papers on Academic Failure

Discussion

Academic failure and dropout are topics of interest in the scientific literature, as confirmed by bibliometric analysis, which has shown a great richness in the results and the existence of publications at a global level in this field. Although most of the existing works have been published in the Anglo-Saxon field, the predominance of studies published in Spain is noteworthy. Perhaps, this is to be expected, given that it is the second country with the highest rate of early school leaving in the European Union (Eurostat, 2022).

Bibliometric analysis has allowed to study the associations and differences between the terms of academic failure and dropout, which are closely associated in the academic literature. We observed that academic failure is a more recent term linked to unsatisfactory educational results and a lack of acquisition of life skills. Similarly, the very definition of dropout, characterized by partial or total non-completion of studies, is related to the compulsory nature of educational systems, which since the 1980s and 1990s has been progressively prolonged.

The use of keywords as a resource of bibliometric analysis, in the first instance, and statistical analysis, in its subsequent step, have especially helped to clarify the differences between the use of both concepts. These analyses have made it possible to confirm that the articles that study academic failure focus on academic and learning factors (*achievement, curriculum, learning* and *evaluation*), sociocultural factors (*culture* and *population groups*) and personal factors (*health* and *personal factors*), and also consider the very term *grade repetition* used in the search. The predominance of academic and learning factors in the study of academic failure at the international level shows that the research mainly focuses on students' learning processes and outcomes. This is consistent with the idea that academic failure is associated with unsatisfactory educational outcomes. In this sense, evaluation, being the measurement and assessment of educational outcomes, has proven to have a remarkable role in the study of academic failure. Furthermore, the analysis shows a concern for understanding and explaining the sociocultural and personal conditioning factors of academic failure, which have a long tradition in the study of academic performance (Angelkoska et al., 2016; Aydin, 2017; Cornelius-Ukpepi et al., 2019).

The keywords of the articles related to dropout have been associated with *employment*, with students' educational paths (*distance education, educational levels, degrees, and organizations, enrollment* and *graduation*) and with the term *dropouts* itself. In this way, the link between the concept of dropout and the academic trajectories followed by the students is evident. Here, it is worth mentioning *enrollment* and *graduation*, descriptors that, on the contrary, have not been associated with any of the articles on academic failure. These results allow to affirm that dropout is related to a disengagement from education before obtaining a diploma (graduation), whereas academic failure has presented a direct relationship with academic performance and learning processes. Likewise, research on dropout tends to focus on the levels, stages or educational modalities in which this phenomenon occurs, which is also related to the demonstrated influence of transitions on dropout (Fernández Enguita et al., 2010). Finally, the link between employment and this phenomenon has also aroused the interest of the scientific community. In this sense, the clear two-way relationship between dropout and employment must be considered (Stearns & Glennie, 2006; Wood Kiperman et al., 2017). This contrasts, however, with a lack of publications on academic failure linked to employment.

Conclusion

The keyword analysis has allowed to deepen into the differences between academic failure and dropout, evidencing that the research on academic failure is linked to sociocultural, personal, and academic factors, while that on dropout is associated with employment and educational trajectories. Therefore, this study reveals that although academic failure and dropout refer to closely related educational problems, there are remarkable differences between them and between the treatment given to each of them in the scientific literature.

Thus, the results corroborate that keyword analysis is an effective method for investigating the structure of knowledge, as well as being widely useful to explore the development of trends within an area (Lu et al., 2010). Currently, some journals (especially in the medical field) have eliminated the incorporation of keywords from the instructions to authors (Muñoz Martín, 2016). However, keyword searches are increasingly common in specialized search engines, and the debate about the presence and usefulness of keywords has led to questioning their contribution (we suggest reviewing the study by Gross et al. [2015] to obtain a comprehensive view of this debate).

From our perspective, and according to the data confirmed by the present study, the search with keywords and with descriptors can be combined, as both methods are complementary. According to Hubert and Mothe (2009) and to McCutcheon (2009), this complementarity allows the selection of categories and relevant information. It also allows researchers to broaden the focus of their search and deepen the knowledge that would otherwise be inaccessible. However, the importance of correctly defining keywords should be stressed, as the subsequent visibility of the papers depends, to a large extent, on this aspect.

Recommendations

Beyond the data offered in this article, and beyond the academic reflections on academic failure and dropout, we cannot fail to highlight the importance of the research in this area on global education, recalling that Goal 4, within the

sustainable development goals (SDG 4), seeks that by 2030 all children complete primary and secondary education (United Nations, 2015). Also, in most European countries, and in many others, compulsory secondary education has been strengthened and expanded in recent years. Moreover, most Latin American countries underwent educational reforms in the 1980s and 1990s, incorporating at least one cycle of compulsory education into secondary education, thus extending its compulsory nature (Macedo & Katzokiwicz, 2002). However, whereas the numbers of out-of-school children and youths have been steadily falling since 2000, 263 million children, adolescents, and young people between the ages of 6 and 17 were still out of school in 2016, according to data from the UNESCO (2016) Institute for Statistics.

Considering all this, it is therefore necessary to delimit the concepts in a way that allows to deepen in the knowledge of these phenomena in order to be able to act preventively and proactively in the reduction of academic failure and dropout. In this regard, it is essential that researchers on these topics deepen in the theoretical and practical differences, similarities, and relationships between the two phenomena, as this would allow the elimination of existing confusion over these two concepts, as well as research to be carried out under appropriate scopes.

Also, it is important for researchers to be aware not only of the conceptual differences between academic failure and dropout, but also of the different perspectives and definitions from which each of these problems can be approached separately, as this would enable them to adopt the most appropriate scopes. Finally, it would be recommendable that researchers clearly delimit and justify the perspective in which they are placed when studying these aspects, as this would allow knowledge about academic failure and dropout to be built on a solid, common, and objective basis.

Limitations

Among the possible limitations of this study are those derived from the very consideration of the keyword as a concept introduced by the author or authors of the document, since these words can have different interpretations depending on the scope of the study or even the cultural context in which they are included (Hsieh-Yee, 1998; Online Computer Library Center, 2009). Therefore, as suggested by Chan (2000), searches should be performed with keywords and using descriptors, so that search engines offer alternative terms that make these searches more effective.

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Gutiérrez-de-Rozas: Concept and design, data acquisition, data analysis, drafting manuscript, critical revision of manuscript, final approval. Carpintero Molina: Concept and design, data acquisition, data analysis, drafting manuscript, critical revision of manuscript, final approval. López-Martín: Concept and design, data acquisition, data analysis, drafting manuscript, critical revision of manuscript, final approval.

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Appendix

Descriptors of the ERIC Thesaurus Selected for Keyword Classification and Example of Associated Keywords

Academic degrees Business students, medical education, etc.	**Accountability** School accountability, teacher accountability, etc.
Achievement Academic performance, student achievement, academic failure, etc.	**Age groups** Children, adolescents, etc.
Culture Cultural context, cultural differences etc.	**Curriculum** Literacy, mathematics, etc.
Distance education Online learning, e-learning, etc.	**Dropouts** Student dropout, student withdrawal, etc.
Economic factors Productivity, wages, earnings, etc.	**Education** Education, Pedagogical issues, etc.
Educational levels, degrees and organizations Higher education, graduate education, etc.	**Educational methods** Interventions programs, virtual methods, etc.
Education policy State policies, university policy, etc.	**Educational quality** Efficiency, quality, school effectiveness, etc.
Employment Job opportunities, job satisfaction, etc.	**Enrollment** Admissions, selection, college enrollment, etc.
Equity Inequality, social exclusion, etc.	**Evaluation** Assessment, PISA, TIMSS, etc.
Family characteristics Socio-economic factors, family support, etc.	**Gender issues** Gender, gender inequality, gender issues, etc.
Geographic regions Norway, developing countries, Spain, etc.	**Grade repetition** Repetition, grade repetition, etc.
Graduation High school graduation, completion rate, etc.	**Health** Drug abuse, mental health, stress, etc.
Learning Lifelong learning, learning styles, etc.	**Orientation** Advising, guidance, transition, etc.
Performance factors Risk factors, predictive factors, etc.	**Personal factors** Persistence, self-efficacy, motivation, etc.
Population groups Immigrants, giftedness, etc.	**Research methodology** Logistic regression, meta-analysis, etc.
School organization Organizational climate, school factors, etc.	**Social indicators** Peer relations, social support, etc.
Social problems Violence, bullying, etc.	**Teachers** Teacher-student relationship, teacher expectations, etc.
Theory Capitalism, explanatory model of Ethington, etc.	**Truancy** Absenteeism, truancy, etc.