

DROPOUT INTENTIONS IN HIGHER EDUCATION: SYSTEMATIC LITERATURE REVIEW

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Article history

Received

June 1, 2022

Received in revised form

November 7, 2022

Accepted

March 8, 2023

Available on-line

June 30, 2023

ABSTRACT

College dropout proves to be a critical problem in undergraduate programs that directly affects students and the related community, due to direct economic losses and significant social costs. This article addresses a systematic review of the literature on predictors of student dropout intention in higher education, focusing on scientific production in Q1 and Q2 journals from 2018 to 2023, performing a bibliometric review and analyzing the available empirical and theoretical data on the phenomenon of college dropout intention and its affecting factors.

The bibliometric results and those related to predictors of dropout intention introduced in previous studies are presented. The largest number of researchers studying this phenomenon are from Germany, however, the United Kingdom is the country with the largest number of publications. Previous research can be grouped into two categories: studies analyzing psychological factors of dropout intention and those related to academic and social integration.

KEYWORDS

Dropout, intention, higher education

HOW TO CITE

Véliz Palomino J. C., Ortega A. M. (2023) 'Dropout Intentions in Higher Education: Systematic Literature Review', *Journal on Efficiency and Responsibility in Education and Science*, vol. 16, no. 2, pp. 149-158. <http://dx.doi.org/10.7160/eriesj.2023.160206>

Highlights

- Student dropout is an issue of global importance that affects students, their families, labor organizations, universities, government agencies and therefore the country's economy.
- Dropout in higher education can be conceptualized as a decision-making process consisting of different phases, which include the following phases: perception of unsuitability, thoughts of dropping out/change, deliberation, information search and a final decision.
- Psychological predictors such as self-determination, self-efficacy, autonomous motivation, adaptability and resilience influence the intention to drop out of college.

INTRODUCTION

Dropout intention is defined as a student's estimated probability of failing in school (Bean, 1985). It refers to students' reported intention to change majors or drop out of college and it is considered an early red flag of actual dropout. According to Mijóč et al. (2016: 334), the intention is 'especially suitable for investigating behaviors that are odd, difficult to observe, or include unanticipated delays'.

College student dropout, including its reasons and implications, is a phenomenon that has been studied since the 1930s (Bardach et al., 2020). Currently, the tendency to investigate college student dropout persists, as it is a complex phenomenon in which several academic and social variables interact (Bernardo et al., 2022). Likewise, higher education organizations strive to reduce dropout rates due to the high economic cost to families and states (Castro-Lopez et al., 2022), seeking to increase the number of academically qualified people in the labor market and decrease malinvestment (Bargmann et al., 2022).

From the position of Bäumle et al. (2022), college dropout can be conceptualized as a decision-making process consisting of different phases, which include: the perception of unsuitability, thoughts of dropping out/change, deliberation, information search and the final decision.

Research results have shown that there are multiple factors that affect such phenomenon in all the phases, including personal, socioeconomic, family, institutional, academic performance and behavioral aspects of students, as well as their personality (e.g., Scheunemann et al., 2021; Fourie, 2020; Respondek et al., 2017; Jenó et al., 2018; Bardach et al., 2019 and Truta et al., 2018). Also, Bean (1985) classifies the factors affecting the dropout intention, in: academic outcomes, academic variables, background prior to the start of college experience, and environmental variables.

Reducing dropout rates continues to be one of the main objectives for universities (Manrique et al., 2019) and the theoretical and practical development of knowledge

about this phenomenon is vital for the implementation of future strategies (Ameri et al., 2016).

In this systematic literature review, the following question is posed: what do scientific research articles published in the last five years in Q1 and Q2 journals report about predictors of intention to drop out in university higher education? What are the avenues for future research on these issues?

The article's structure is as follows: First, an introduction to college dropout intention is given; second, the methodology of the systematic review is presented. Third, the bibliometric results are shown. Fourth, the different predictors of students' intention to drop out of higher education from the most relevant articles found are presented and, finally, the results are discussed.

METHODOLOGY

A systematic literature review provides the foundation and consolidation of a summary of publications in a given field of study. Its main purposes are to define relevant concepts, synthesize evidence, identify previously used methodologies and distinguish research gaps in the area of interest (Baker, 2016).

The present study is based on the methodology proposed by the PRISMA (Preferred Reporting Items for Systematic reviews and Meta-Analyses) (Liberati et al., 2009), in order to systematize in an organized way, the evidence found about dropout intentions in higher education.

For the development of the systematic review, the following stages were carried out: 1) the formulation of the research questions, 2) specification of the inclusion and exclusion criteria for articles, 3) formulation of the literature search plan, 4) the search for articles in the selected databases, 5) evaluation of the quality of retrieved articles according to established criteria, 6) systematization of the information, and 7) the interpretation and presentation of the results.

This bibliographic search considered publications on dropout intentions in higher education in the Web of Science (WOS) and Scopus databases, which were selected for being the most recognized and multidisciplinary at the international level

(Alcántara and Márquez, 2017). The search formulas were constructed as follows:

Scopus: TITLE-ABS-KEY AND TOPIC (drop* AND intention* AND high* AND education) AND PUBYEAR > 2017 AND (LIMIT-TO (SRCTYPE, "j"))

Web of Science: TITLE-ABS-KEY AND TOPIC (drop* AND intention* AND high* AND education).

In the search formulas, the wildcard (*) was used in order to collect all possible options without omitting information. The inclusion criteria for the articles to be included in the review were: a) studies with a central theme or explicit relation to Dropout Intentions in Higher Education; b) research developed between 2018 and 2022, c) full-text articles in languages Spanish, English and/or German. As stated by González-Pereira et al. (2010: 12) 'a three-year citation window is wide enough to include most citations, and dynamic enough to measure the evolution of scientific journals'.

Duplicate articles in the databases were discarded and articles in the area of medicine were excluded from this literature review, as well as books, book chapters, working papers and conference proceedings. Also, we excluded articles related to secondary, higher technical or doctoral level education, as well as those linked to massive open online courses (MOOCs) and journal articles that are not in the Q1 and Q2 quartiles, since they have a low impact factor.

As expressed by Okagbue et al. (2019: 1), 'Both the impact factor and the CiteScore are used in the evaluation of the impact, prestige and quality of the journal', therefore for the present research we have as inclusion criteria the articles whose journals belong to the Q1 and Q2 quartile.

After applying the described criteria, the final selection comprised 72 scientific articles, constituting the body of data analyzed in this work. These articles, along with other important seminal or contrasting articles, were used to present predictors of dropout intention in higher education, such as the related variables and proposed approaches for future research.

As expressed before, the four-phase review procedure proposed by the PRISMA statement was implemented (see Figure 1).

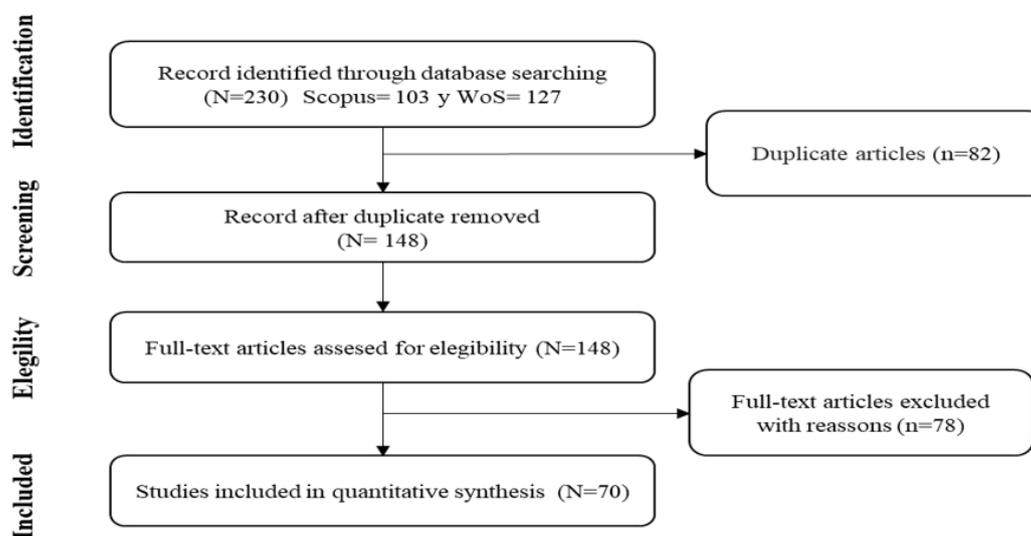


Figure 1: Flow Diagram Prisma

BIBLIOMETRIC RESULTS

The following section present the results of the bibliometric analysis on the articles about dropout intention. In order to examine the countries with the most research on

dropout in higher education, we used the country of affiliation of the authors. The academic articles are distributed over 18 countries. Table 1 shows that Germany contributes 29% of the articles related to dropout intention, followed by Spain with 16%.

Country affiliations	2018	2019	2020	2021	2022	Total	%
Germany		3	5	6	6	20	29%
Spain	1	2	1	2	5	11	16%
Norway	1		1	1	2	5	7%
Belgium		1		2		3	4%
Chile		1		1	1	3	4%
Romania	1			1	1	3	4%
United Kingdom	1	1	1			3	4%
United States	1		1	1		3	4%
Other Countries*	4	2	2	5	6	19	27%
Total	9	10	11	19	21	70	

Table 1: Countries of Affiliation the Journals from January 2018 to August 2022

Regarding the other countries, we grouped the records of the following countries: Finland, Italy, Australia, Austria, China, Croatia, France, Luxemburg, Netherlands, Peru, Portugal, Russia, Saudi Arabia, Slovenia, South Africa, Thailand and Vietnam, since they have only one research between the period 2018 to 2022.

Table 2 presents the origin countries of the journals and the United Kingdom, with 22 articles, is the country with the highest number of publications, followed by Switzerland, with 14. These two countries account for 51% of the total analyzed articles.

Source Country	2018	2019	2020	2021	2022	total	%
United Kingdom	3	2	2	7	8	22	31%
Switzerland	2	1	2	5	4	14	20%
United States	3	1	4	3	3	14	20%
Netherlands			1	2	4	7	10%
Spain	1	2	1	1	1	6	9%
Germany		3			1	4	6%
France		1				1	1%
Portugal				1		1	1%
Turkey			1			1	1%
Total	9	10	11	19	21	70	

Table 2: Origin Countries of the Journals from January 2018 to August 2022

Table 3 presents details about the ten main journals that contributed to this literature review according to their impact factor. Also, The Scimago Journal Ranking (SJR) is a bibliometric indicator that measures the influence of scientific journal. It is possible to observe that “Computers & Education” has the highest impact index, with an SJR of 3.676.

To analyze the impact of the articles and determine those that should receive more attention, we used the total number of citations according to the Social Science Citation Index (SSCI). In total, 4347 citations of the articles were analyzed. The most cited study, with 116 citations, was Maluenda-Albornoz et al. (2022), which focused on early and dynamic socio-academic variables related to intention to drop out of studies.

Figure 2 presents the key words network, which shows the connection between the topics associated with college dropout intention and the related variables, not only by considering the links within the same group but among them. The more outstanding, the closer are the nodes of the network, and the more corners they have, the greater the strength of the relation and the higher the number of documents with connecting keywords. As it can be observed, in the scientific literature the keyword *dropout* is strongly related to the words *higher education*, *model*, *persistence*, *engagement*, *achievement*, *self-efficacy*, *motivation*, and *performance*. Furthermore, Table 4 presents the clustered keywords indicating the persistent study topics.

Cluster	Color	Keywords
1	Red	Well-being, depression, anxiety, burnout, gender, outcomes, satisfaction
2	Yellow	Dropout intention, academic-performance, higher-education, achievement
3	Green	Intention, autonomy support, covid-19, motivation, students
4	Blue	Dropout, model, retention, social integration, strategies, perceptions, higher education

Table 4: Key Words grouped according to Cluster

This analysis shows how, in relation to the dropout intention, cluster 1 is developed around psychological factors, cluster 2 is more associated with academic performance and student achievement within the academic program, while cluster 3 touches on issues related to covid-19, the autonomy required in this scenario, as well as the influence this has on student motivation. Finally, cluster 4 develops around the retention

strategies out of the social integration of the student. Figure 3 shows the variables associated with the intention to drop out of higher education according to the analysis carried out based on all the articles included in this literature review. These factors have been classified into demographic factors, financial situation, academic integration, institutional integration, social integration and psychological conditions.

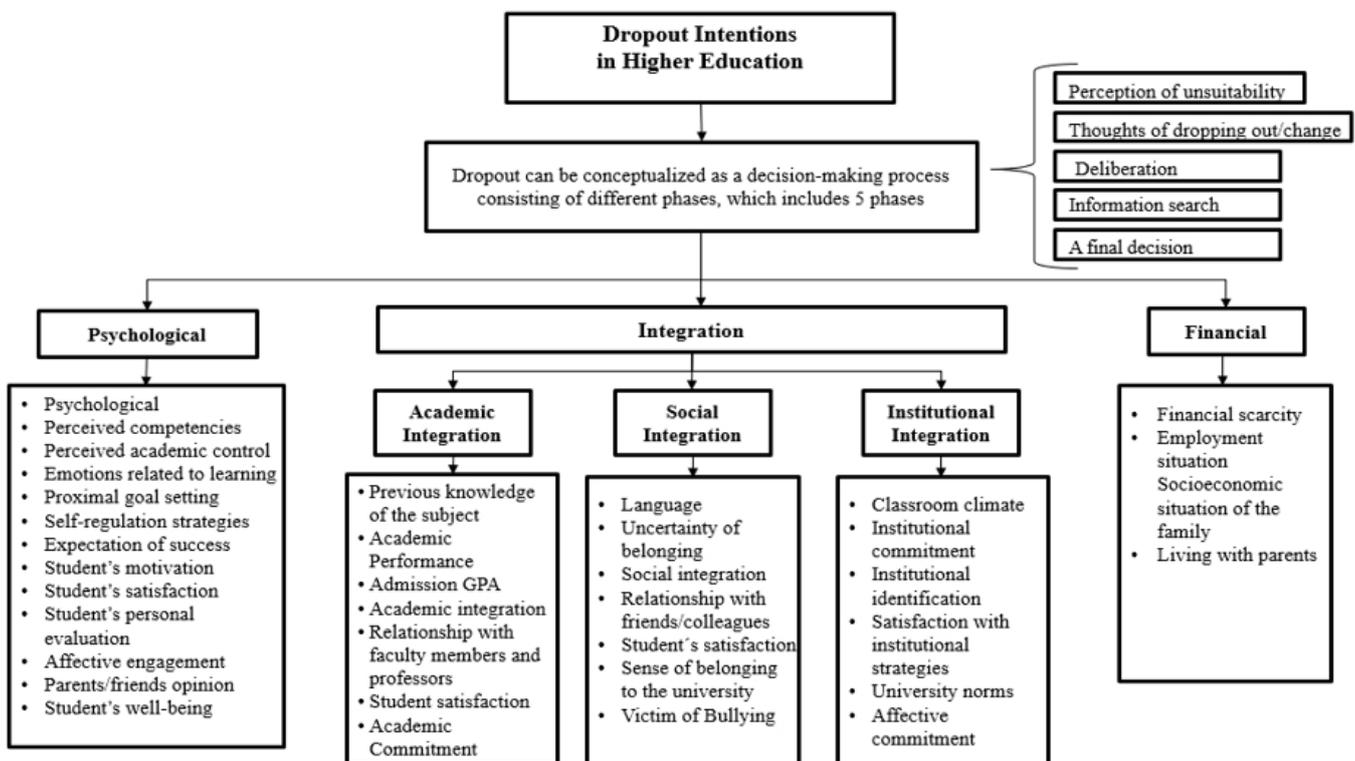


Figure 3: Conceptual map on dropout intention and related variables

PREDICTORS OF DROPOUT INTENTION

This section is dedicated to deepening the description of previous research findings, about the different variables affecting the dropout intention, as well as the different explanatory approaches for this phenomenon.

Psychological Factors

A group of explanatory studies of dropouts focused on the analysis and study of students' characteristics, personality, and their degree of intention to achieve a goal, giving rise to the psychological approach.

According to Díaz-Mújica (2019), motivation is an important individual variable affecting dropout. As stated by Bargmann et al. 2022, when students are firmly determined to study, they tend to drop out less frequently,

however, when motivation decreases, it predicts the intention to drop out, as evidenced before in programs related to teaching (Hartl et al., 2022, Singh and Alhulail, 2022), biology (Jeno et al., 2023), nursing (Duprez et al., 2021), law and mathematics (Schnettler et al., 2020). Then, motivation is a cross-cutting factor to the careers being studied, without geographic delimitation (Toomsalu-Stefanova et al., 2020).

Research by Bardach et al. (2020) and Díaz-Mújica et al. (2019) evidenced that motivational regulation strategies will positively predict academic performance and negatively predict dropout intention through increased academic effort. According to Schnettler et al. (2020), intraindividual changes in intrinsic value, achievement and cost, but not expectancy and utility, were related to intraindividual changes.

Additionally, when college students' self-esteem is at a considerably lower level, it is a highly significant predictor of college dropout intention without distinguishing college major, especially for the case of health science, medical and/or nursing schools (Duprez et al., 2021; Dancot et al., 2021), as well as in engineering or STEM schools (Baltà-Salvador et al., 2022).

The research of Bargmann et al. (2022), showed that students' homework effort and interest values were indirectly related to dropout intention after the first year of higher education, while Jenó et al. (2018, 2023) found that autonomous motivation and perceived competence positively predict academic performance and negatively predict dropout intention. Moreover, as the authors said, controlled motivation is not related to academic performance but is a positive predictor of dropout intention.

According to Girelli et al. (2018), self-efficacy benefited from autonomy-supportive behaviors provided by teachers and parents, while external regulation did not significantly predict dropout intention. On the other hand, Deci and Ryan (2013) asserted that academic self-determination occurs when students succeed in regulating their own behavior to meet their intrinsically motivated goals based on their autonomy and competence, which impacts students' intention to drop out.

As argued by Perry et al. (2001), perceived academic control describes the personal internal faculty of outcomes and achievement and is a relatively stable psychological capacity, i.e., a person's belief in his or her influence on the success or failure of performance outcomes. Based on this concept, Respondek et al. (2017) endorses the important role of perceived academic control and anxiety toward academic success in college students

According to Tuero et al. (2018), the most relevant variables in the planning and consolidation of dropout, respectively, and in order of importance, are: the student's early performance, the non-academic work schedule (domestic and/or paid), the relationship with teachers, the expectations generated about the contents, the use of study techniques and the guidance received.

Two studies have been conducted with students at the University of Laguna, Spain, and the findings obtained were that students who have higher scores in the dimensions of adaptability (worry, control, curiosity and confidence) have a lower intention to drop out (López-Aguilar et al., 2022). On the other hand, in health sciences, medical and/or nursing schools, resilience was a factor found to predict academic success (Van Hoek et al., 2019).

Academic, Social and Institutional Integration

Evidence shows that the most recognized model in the study of student attrition and retention is the one developed by Tinto (1975). In particular, Tinto (1975: 78) stated that 'dropout represents the failure of individuals, given capacity and commitment to goals, to achieve desired educational goals'. According to this definition, student dropout is from an individual perspective associated with dysfunctional self-regulation (Bernardo et al., 2019). Heublein and Wolter (2011) extended this view to a perspective that also considers environmental factors, conceptualizing student dropout as a complex event

where individual, institutional and social factors that affect study overlap. Consequently, student dropout can be seen as a continuous process of decision-making (see also Bülke et al., 2022), resulting from the intention to drop out.

Tinto (2007) explains the process of permanence in higher education in relation to the degree of adaptation of the student based on the academic and social experiences with the institution and also details that the key factors for success lie in the development of learning communities and in the construction of a collaborative environment in the classroom. On the other hand, Lerdpornkulrat et al. (2018) stated that perceptions of the classroom environment and institutional goal structures are significantly related to students' motivational orientations and engagement levels and contribute to the intention to stay in college.

In their study, Piepenburg and Beckmann (2022) conducted a Multilevel analysis and corroborate Tinto's integration model by revealing that all subdimensions of academic and social integration predict dropout intentions, but also show that not all subdimensions are equally important. For example, the effect of academic and social integration is not highly dependent on students' family academic background.

According to Klein (2019), academic and social integration are negatively related to dropout intentions. Close relationships with faculty are positively related to students' intellectual development and negatively related to the perceived burden of performance requirements. Students benefit from contact with faculty only when they exceed a minimum threshold of academic integration. On the other hand, academic integration is related to lower dropout intention, regardless of students' social integration (Teuber et al., 2021; Sureda-García et al., 2021).

Another issue to consider in this field is the integration of transnational students. Immigrant student networks have been found to be distinguished by deep norms and aspirations, which are a shield against college dropout. In addition, students whose two parents are foreigners have a higher risk of dropping out than mixed students, where there is at least one resident family member (Mishra and Müller, 2022). In addition, transnational students score significantly lower than domestic students on social and academic integration, institutional commitment, and satisfaction. Integration and engagement significantly predicted students' persistence intentions (Steele and Douglas, 2021).

According to Höhne and Zander (2019), belonging uncertainty significantly predicts students' dropout intentions above other relevant predictors: academic self-efficacy, the expectation of success, the perceived future utility value of the subject, and prior academic performance.

Other factors that predict college dropout intention are gender, family, socioeconomic status, and perceived barriers to degree completion (Cocoradă et al., 2021; and Bernardo et al., 2019). Specifically in STEM (science, technology, engineering and mathematics) majors, prior knowledge related to the subject matter, mathematical knowledge, specific interest in the field, first-year students face a cognitive and social challenge due to the need to integrate into a new environment. In engineering students, social roots such as group awareness predict success in seeking academic help, this mediates the intention to drop out (Schlusche et al., 2021).

In their study, Dewberry and Jackson (2018) compared the student dropout model based on student integration theory with a psychological model based on the theory of planned behavior (TPB). A model that included TPB variables and two key variables from student integration theory (academic integration and social integration) showed a good fit to the data, although all three TPB variables predicted dropout intention, while neither of the two variables from student integration theory did. The TPB variables explained more than 60% of the variance in students' intention to voluntarily drop out of college before completing their studies, and intention to drop out was associated with actual dropout behavior.

An important aspect to consider is that violent behavior in college classrooms has increased over the past few years. From the position of Bernardo et al. (2020), students who were victims of bullying or cyberbullying were more likely to consider dropping out of college. Likewise, those who feel perceived discrimination follow the same trend (Baltà-Salvador et al., 2022).

Financial Factors

According to Breier (2010), financial considerations may more decisively affect student dropout in underdeveloped and developing countries, which present greater challenges in relation to the purchasing power of their inhabitants, but financial considerations are now also a factor that can play an important role in developed countries because of the credit crunch.

Bean's (1985) study indicated that among the most important factors for dropout are the financial situation of the student and his or her family, as well as the student's own responsibility for a job (hours of employment) and family obligations. However, it is important to clarify that the statements of these studies are the opposite of those of Abarca Rodríguez and Sánchez Vindas (2005) and Tinto (2007), who stated that the financial situation is not a determinant or a crucial factor for dropout, given that there is financial aid in universities and other alternatives.

In this regard, according to Chen (2008), in several previous studies, the financial factor has been shown to influence both the decision to study and the decision to drop out, which is why the current models that study this phenomenon add the financial factor to the analysis, to the traditional approaches from the psychological, social, organizational and interaction perspectives. The inclusion of the economic aspect in the analysis of the phenomenon is vital to promote aspects related to public investment in economic support, subsidies and financial aid to underprivileged students in order to balance the opportunity of access and permanence in education, as noted by Chen.

DISCUSSION

This study aimed to review the literature published between 2018 and 2022 in quartiles Q1 and Q2 on higher education dropout intention, in order to understand the theoretical and practical development of the theme, its conceptual evolution and the different factors considered in the literature in relation to this phenomenon.

The content of the multiple studies reviewed, although with few non-consensus results, was systematized according to

the PRISMA model, illustrating the potential to identify new reasons that could lead to higher education dropout intention or better models that help to understand this phenomenon in a holistic manner and to address it through the different factors that affect the process. Thus, we emphasize the need to provide answers to the procedural nature of dropping out of higher education and to consider personal and contextual factors, whether in research or in institutional functioning, such as psychological intervention services (Tinto, 2007).

The present review suggests a greater incidence of literature on attributes prior to higher education entry, while studies at the level of goals and commitments before and after higher education entry and social/academic integration are still scarce. It can be found that variables related to academic performance and higher education, to the economic situation of families and to goal setting are frequently investigated (Ekornes, 2022; Castro-Lopez et al., 2022; Bernardo et al., 2022; Jenó et al., 2018; Respondek et al., 2017). Many studies have also been found on factors related to social and academic integration and goals and commitments before and after entry, according to Tinto's (1975, 1993) model. Few longitudinal studies have been conducted, which could be useful in testing Tinto's (1975, 1993) model, while supporting and extending its practical utility for institutions of higher education (Tinto, 1982, 2010). It is also possible to observe how the psychological aspect has been extensively addressed in previous literature (Tinto, 2010). In this respect, psychologists in a higher education context should be attentive to signs of risk of dropping out of studies while planning psychological interventions that support students in their decisions and their respective implementation while verifying their effectiveness.

It should be noted that the research so far has a greater orientation towards studying the actual behavior, which would be more difficult to reverse and causes all the related problems described above, i.e., when the dropout occurred. It is suggested for future research to investigate the intention to drop out, understanding it as a complex process, covering the academic and professional trajectories of students, and privileging the individual, institutional, family, social and cultural characteristics in the analysis. To deepen the research with the meta-analysis tool and to know which factors influence the intention to drop out. It is recommended to continue with more research on the subject that will make it possible to form a broader body of knowledge that integrates the new educational realities caused by the COVID-19 pandemic. These studies also provide insights into the procedural nature of the intention to drop out of higher education and identify differences in the relationship between variables and in the weight of different factors in the explanation of this phenomenon (Ekornes, 2022).

Also, future research could help in the construction of tools for early identification of students at risk of dropping out of the education process. Given the results of this literature review, we note how it is pertinent that such tools include psychological factors, those associated with the integration of the student as well as the risks derived from his or her financial situation. These types of integrative tools and methodologies to understand and observe the dropout intention not only represent

a theoretical advance in this topic but also in terms of their managerial contributions, as they would be useful to detect in which cases the students could benefit from organizational measures oriented to early attention to the dropout intention, such as psychological interventions and other support tools from the academic and institutional perspective.

Thus, it is important to establish national and international recommendations on how to operate to support students at risk of dropping out of higher education. In light of these recommendations, it is necessary for each institution to develop its own pedagogical philosophy and policies and plan measures to manage the risk and/or intended dropout situations. Educational and school psychologists can play an essential role in institutions of higher education, providing support for the planning of life projects for each student and providing services compatible with governmental and institutional concerns. Therefore, they can contribute to the appropriation of an integrative vision on the intention to drop out of higher education, respecting both the priority socio-political axes such as the educational mission of higher education institutions, as well as the objectives and needs of their target audience.

CONCLUSION AND FUTURE RESEARCH

Different authors (e.g., Munizaga Mellado et al., 2018; Dewberry and Jackson, 2018; Truta et al., 2018) comment that student dropout is an issue of global importance that affects not only the individual and his or her family but also a variety of actors, such as labor organizations, universities and government agencies, given its multiplier effect on employment and on the country's economy in general, while also generating social immobility.

Hence there is a need for studies that go beyond statistics, looking for the impact of questions such as the cultural context, the perception of the value of education. Nowadays, the new ways and opportunities to access knowledge and the difficulties that young people experience in adapting and integrating into university life and dynamics. A prominent aspect observed in studies on dropout intention is the deterministic view that invites to analyze the problem as an outcome, whereas this phenomenon is clearly related to the entire educational process (i.e., the dropout phenomenon begins and develops from basic education).

In that sense, for Fleischer et al. (2019), the low quality of education in countries does not predict the future difficulties of students who are academically disadvantaged for educational achievement; however previous studies tend to confirm that deficiencies in basic education can generate gaps that can later manifest later in poor academic performance, psychological problems or integration difficulties, all of which affect students' intention to drop out of higher education.

Literature reviews also suggest that the internal strategies that schools can formulate and implement are not enough, as it is equally important to influence educational policy to improve the quality of education as a whole, which would be an essential factor in preventing this phenomenon.

Considering the aspects found in the previous research, future studies could lead to a holistic understanding of the causes of the intention to dropout, and deepen the managerial implications, so that all the actors involved in the phenomenon can take actions that contribute to the intervention of this problem, through the registration, analysis, monitoring and intervention of risk factors, as well as the implementation of positive actions to reinforce the permanence and successful completion of studies.

Regarding the study limitations, this systematic literature review has considered only articles published between 2018 and 2022, and the search has been restricted to Scopus and Web of Science databases. However, this time frame is given in line with previous recommendations by González-Pereira et al. (2010) and enables sufficient analysis to consider the most relevant variables at present. This literature review offers theoretical contributions insofar as it is important for any researcher who intends to understand the phenomenon of student dropout from its causes and associated factors and identify the variables that have been considered in previous analyses, the contexts related to each variable, and how they can be grouped according to existent studies, in order to formulate interesting questions, explore new avenues and contribute to the development of the subject from new perspectives that can genuinely contribute to its advancement in theoretical and practical terms. Understanding the state of the art of scientific knowledge on this topic and introducing the discussions around new variables (e.g., violence in college classrooms, COVID-19 and quarantine effects), will allow researchers to visualize bolder and more pertinent paths for future research.

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