frontiers | Frontiers in Education

TYPE Original Research
PUBLISHED 07 August 2023
DOI 10.3389/feduc.2023.1156725

OPEN ACCESS

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RECEIVED 01 February 2023
ACCEPTED 26 July 2023
PUBLISHED 07 August 2023

CITATION
Fehérvári A and Varga A (2023) Mentoring as prevention of early school leaving: a qualitative systematic literature review.
Front. Educ. 8:1156725.
doi: 10.3389/feduc.2023.1156725

Mentoring as prevention of early school leaving: a qualitative systematic literature review

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One of the biggest challenges facing education systems is preventing early school leaving. Not completing secondary education has serious long-term negative consequences for both individuals and society. There is currently a wide body of empirical literature that reviews the causes of and risk factors for school dropout and the prevention of student attrition. With new reviews emerging over time, our analysis updates previous systematic analyses, and we therefore review empirical studies from seven databases between 2013 and 2021 that use mentoring to prevent early school leaving. We focus on mentoring because personal support is a crucial type of prevention program. We identified 25 studies from this period through a systematic search. The aim of our research was to identify the target groups, the mentoring roles, and the goals and outcomes of the mentoring programs in the interventions undertaken in the studies we identified. The studies present both school-based and community-based mentoring practices primarily in North American and European countries. The results show that the focus of the studies was mainly on secondary school target groups as there were few studies addressing younger age groups. Most of the studies focused on a 1-year period or shorter durations, and several studies found that mentoring had positive effects on students. However, not all the factors identified as development objectives have changed. It should also be stressed that the success of mentoring depends on the quality of the mentors and the quality of their relationship with the mentees, as well as on the implementation of the mentoring programs and the school contexts in which they operate. The importance of the latter has perhaps received less attention in previous reviews and analyses.

KEYWORDS

dropout, early school leavers, mentoring, systematic review, prevention

1. Introduction

The key objectives of education systems are to ensure student progress, attainment a minimum of a high school degree, and reduction of early school drop-out rates, all of which benefit society, the economy, and individuals. The long-term effects of school completion also manifest in increased civic responsibility, politics, health, and social and employment sectors, resulting in higher economic growth rates, higher tax revenues, lower unemployment and welfare payments, and lower public health and criminal justice spending (Gitschthaler and Nairz-Wirth, 2018). The issue has become particularly relevant in the context of Covid-19 worldwide, as school closures have increased the risk of early school leaving by deepening educational inequalities (Maldonado and De Witte, 2021), with effects particularly on the later

life course and expected income of children from low socio-economic status families. Personalized support plays an important role in preventing this and, can be effectively applied to compensate student failure in school. Mentoring programs can have a significant impact on both the cognitive and socio-emotional development of students. Mentoring relationships can help to set students on a more positive and lasting developmental trajectory (Werner and Woessmann, 2021).

Numerous empirical studies and systematic analyses have been carried out on the drop-out process and its causes, which, on the one hand, emphasize its complexity, as well as its pedagogical, sociological, psychological and health contexts. On the other, studies also focus on individual, family, and school factors, noting that the role of each factor is not of equal importance. Most analyses highlight absenteeism and underachievement as predictors of early school leaving, which are strongly associated with behavioral, emotional, and cognitive engagement with school and learning (Lyche, 2010; Rumberger, 2012; De Witte et al., 2013; González-Rodríguez et al., 2019). Early school leavers are a heterogeneous group and therefore research on drop-out often distinguishes between push and pull effects. Push theories focus on the causes within the school, a typical push effect being disciplinary procedures, which makes it much more difficult for the student to re-engage in learning and school life. The pull effects focus on the student and are related to the learner's family and financial situation, such as out-of-school employment or illnesses, pregnancy, and childbirth (Doll et al., 2013; Boylan and Renzulli, 2017; McDermott et al., 2018). Separating and understanding these effects is also important because their re-engagement in school requires different prevention pathways.

In addition to identifying the causes, several educational policy interventions have been implemented to reduce early school leaving and drop-out rates, focusing on absenteeism and low school performance. Thus, prevention is effective if students' school attendance, their school performance and connection to the school community increase and, in the longer term, if students complete high school, make informed career choices, and continue their education. Some of these programs are general and applicable to all pupils, while others only target vulnerable groups.

Freeman and Simonsen's (2015) analysis looked specifically at interventions in a quasi-experimental and randomized experimental research framework, as they consider such results as the only ones strongly supported by evidence. They state that although there are many studies on the topic, few of these are experimental. Of these studies, only 36% showed a positive effect on reducing early school leaving. The authors also point out that, although early interventions and follow-up procedures are associated with higher success rates, few studies were found because they are lengthy and complex to investigate; therefore, shorter-term studies focusing on a single risk factor for dropout are more common.

In addition to the above studies, six additional systematic and meta-analyses in English summarized dropout prevention program between 2010 and 2021, in which mentoring was included among the interventions (Fehérvári et al., 2022). Personal support can be an effective way of preventing dropouts. There are different approaches to mentoring. According to DuBois et al. (2011), in mentoring programs the young individuals are paired with volunteers with the aim of promoting students' positive development and well-being. Tolan et al. (2013) consider a mentoring relationship to be one that is sustained over a longer period and where there is a certain inequality of experience and knowledge between mentors and mentees with the former possessing a greater share. Additionally, Tolan et al. (2013) also clarify the concept of a mentor in terms of role. They posit that mentees have opportunities to benefit from this knowledge and experience, however, their relationships are not characterized by dimensions of role inequality or status differences (e.g., teacher-student and parent-child).

The analyses by Wilson et al. (2011) and Wilson and Tanner-Smith (2013) were the most comprehensive, representing the largest number of studies. They found that all programs had positive effects, but that these effects were modest with the effect size being influenced by age and gender. Interventions were more successful at younger ages and with boys. There were no differences in the impact from program elements, but those programs that were more accurately planned in their implementation had larger impacts. Adaptation to the local context also improves the effectiveness of implementation. Ekstrand's (2015) analysis draws attention to the role and responsibility of the school, with a positive school climate and the commitment of leadership and teachers being essential prerequisites for interventions to reduce early school leaving. The analysis illustrates that student attachment to parents, teachers, and other adults appears to be key, while attachment to peers can have both negative and positive effects. Some systematic analyses have looked specifically at mentoring programs (Wood and Mayo-Wilson, 2012; Karaferye, 2018). Wood and Mayo-Wilson's (2012) and Tolan et al.'s (2013) analysis found that the mentoring programs they examined did not reliably improve any of the outcome indicators they targeted. The authors suggest that with longer durations and well-designed programs, these interventions may be more successful. Karaferye (2018), on the other hand, found that mentoring leads to significant improvements in student outcomes. The author highlights that for mentoring to be effective, mentors need to be trained in structured interaction processes and mentoring skills workshops need to be provided to build support. Tolan et al. (2013) also documented the effectiveness of mentoring programs, highlighting that the level of motivation of mentors has the greatest impact on the effectiveness for mentees.

The overall aim of the study is to explore what empirical research tells us about dropout prevention interventions that also include a mentoring component. Another aim of the study is to identify the effects of these elements on students. Specifically, the following three research questions were investigated:

> *RQ1*: What target groups, mentoring roles, and program elements have been identified in empirical research?
> *RQ2*: How did mentoring change students' cognitive and affective characteristics??
> *RQ3*: What are the mentoring characteristics that have influenced the mentoring process?

2. Methodology

This study used the technique of advanced search on seven selected databases: EBSCO, Eric, Scopus, WoS, ProQuest, Jstore, and Acer. To combine keywords in the preliminary keyword search process, both the term search function and the Boolean operators OR and/or AND were used. The inclusion criteria were defined as follows: the content of the selected articles, publication timeline and language. The systematic search covered the period from 2013 to 2021 in English-language peer reviewed journal articles. The time period of publication was selected

based on the fact that during our preliminary search, the systematic analyses and meta-analyses were completed in 2013 or earlier (Fehérvári et al., 2022). The pilot search used the following keywords: *education NOT higher AND dropout or early school leav* AND prevention or intervention or program AND couns* or mentor or tutor*. The number of hits prompted us to simplify and refine the search (*dropout and school leaver*, as well as *mentor* and *tutor* overlapped completely; *intervention* and *program,* on the other hand, resulted in completely different search results, and *education NOT higher* triggered results that were too broad for the term "education"). ProQuest and Eric's thesaurus dictionary also aided in this process. Thus, the final search was carried out using the following search terms: school dropout, prevention, *mento*r, dropout prevention, school, and *mentor*.

The first stage of keyword searching obtained 718 potential articles, of which 275 remained after removing duplicates. Next, the articles were screened and checked by two members of the research team. The process was carried out independently by the members. Other members of the research group advised the authors in finalizing the suitability of the extracted data. Based on inclusion criteria the title and abstract were checked, 34 articles remained, and after reading the full articles, 25 remained relevant to our research aims. We excluded studies that were not primary empirical studies or were not relevant to our topic, i.e., neither school drop-out nor mentoring (Figure 1).

When assessing the quality of articles, we used the Mixed-Methods Appraisal Tool (MMAT) (Hong et al., 2018), a critical appraisal method for evaluating empirical research using qualitative, quantitative, and mixed methods. The tool asks five questions depending on the study design, which can be qualitative, quantitative RCT, quantitative non-randomized, quantitative descriptive, mix methods. The possible answers to the five questions are: yes, no or do not know. The study was rated as high quality if 4–5 criteria were met, medium quality if 2–3 criteria were met, and low quality if one criterion was met. The qualities of the articles were independently assessed by two reviewers that focus on method, and main results. We did not exclude any studies based on the risk of bias assessment (Hong et al., 2018), which we used to better understand the strengths and weaknesses of the results. There was no need for exclusion, as there were no low-quality studies. Of the 25 studies, 4 were of medium quality and the rest were of high quality.

The study is a qualitative data synthesis, aggregating and interpreting data from individual studies. The search strategy used was the PRISMA protocol, the detailed flow diagram (Shaffril et al., 2019) of which is shown in Figure 1. In addition, other methodological descriptions of the systematic literature review were used (Shaffril et al., 2021).

3. Results

The studies were coded by program name, country, length and type of intervention, research method (see Table 1), and intervention content including target group, mentor, mentoring role, goal, and outcome (see Table 2).

The systematic search covered the period 2013–2021, and the chronology of the articles shows that most of them were published recently. Eight articles were published in 2020 and 4–4 articles in 2018 and 2019.

The geographic distribution of the 25 studies shows a North American predominance: 13 from the United Sates, four from Canada, three from Norway, two from the Netherlands, one from Israel, one from Mexico, and one from Portugal are included in the country list. Although it should be noted that previous analyses have focused specifically on the United States, the inclusion of practices from other countries is a novelty in this analysis. The studies are dominated by quantitative approaches, with 15 quantitative, four mixed methods and six qualitative studies. It should be noted that there are some programs for which both qualitative and quantitative studies were implemented. Experimental design is common among the studies, with 13 studies using this method, six of which were randomized and seven quasi-experimental. As the quality assessment of the studies showed, most of them applied a rigorous methodology. At the same time, longitudinal studies did not cover a longer period: four studies were shorter than 1 year, eight studies covered a period of one school year, and nine studies covered a longer period between 2 and 3 years. For four studies, the period under study was not clear or irrelevant.

After the basic information in the articles, we will analyse the target population of the programs. In the programs examined in the studies, the target groups could be classified in two ways. On the one hand, based on age it is possible to identify that in addition to the primary and secondary education age cohorts, there are interventions targeting young adults beyond the compulsory school age. However, it is essentially the secondary school age group that has been the focus of most studies, of which only three have included primary school age groups. On the other hand, besides demographic aspects, the most common focus of the studies is on individuals at risk of dropping out, either defined by the local referral scheme or by considering school transitions as risk factors from middle school to high school or from lower to upper secondary school. Five studies focus on ethnic, cultural, and religious definitions of vulnerability (i.e., Black American, Native American, Aboriginal, Immigrant, and Orthodox Jewish) (Wallis et al., 2015; Itzhaki, 2019; McIntosh and Curry, 2020; Radlick et al., 2020a,b), one study focuses on the socially disadvantaged, and one study explores young people at risk of juvenile delinquency.

3.1. Mentoring programs and their elements

Mentoring programs are essentially either school- or community-based. School-based programs are predominant in the studies, with 17 school-based and seven community-based programs. The way in which the program is organized usually influences the mentoring roles. Out of the 25 studies, only six have a professional teacher as a mentor, and eight more have both a teacher and an adult mentor. In additi-on to the teacher, the adult mentor is usually a quasi-professional (e.g., holding a social, health, or other degree). There are seven studies where the mentor is a non-professional adult, two studies where the mentor is a university student, and one study with a peer mentor.

There are not many studies on the role of mentors, and most of them do not provide a clear definition of what defines mentors. For example, in one of the research studies, the authors only indicate that mentors play different roles such as siblings, teachers, advisors, and friends (Hickman and Anderson, 2019).

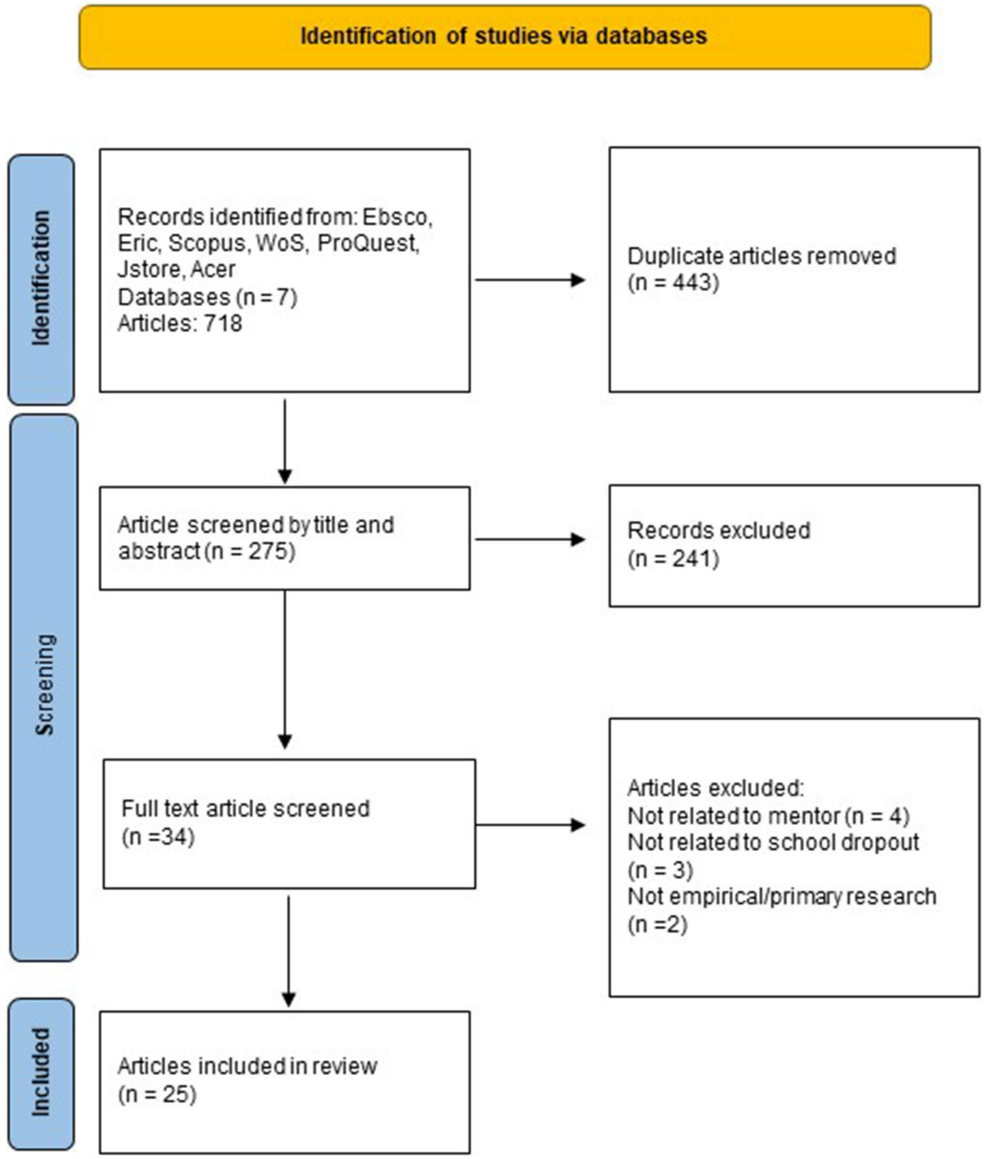

FIGURE 1
Flowchart of the search procedure and data analysis used for the systematic literature review, following PRISMA guidelines (Page et al., 2021).

The interventions and research process descriptions enable the identification of the mentor, how professional they are, and whether they receive any training prior to mentoring. There were 15 studies where the process of preparation was mentioned, of which two elements were the most prevalent: the first was the contact and communication between mentor and mentee, and the second was the specifics and objectives of the program. There are also a few programs where e-mentoring takes place, and the training is about familiarizing oneself with the digital platform. In complement to preparations, there are also mentoring programs where supervision is provided throughout the duration of the program (Gordon et al., 2013; Weiler et al., 2019; Larose and Châteauvert, 2020) or other activities are used such as training materials and workshops to offer mentors continuous development and to assist them in problem solving (Simões and Alarcão, 2014; Moreno-Candil and Garza, 2017). From the studies, we now highlight in more detail those examples that have addressed the training of mentors.

In the Canadian Check & Connect program, mentors are trained at two levels. At the basic level, during a two-day training event participants study the way mentors can track student data (i.e., absenteeism and academic performance), share the data with students, discuss the relevance of the school for students' goals, promote opportunities to participate in school activities, and learn how to develop a problem-solving strategy to achieve school goals. Moreover, there is the possibility for an intensive training where mentors can learn how to organize small group participation, combine, and manage the various resources available, and engage in intensive problem solving (Mac Iver et al., 2017; Heppen et al., 2018). Goulet et al. (2018) mention that in the context of the Canadian implementation of the Check & Connect program, in addition to the 2-day pre-service training, mentors also attend monthly 1-h meetings

TABLE 1 Overview of studies characteristics: basic information.

Articles	Name of the program	Country	Methods		Length of the program	Type of program	
			Quantitative	Qualitative		School-based	Community-based
Abrahamse et al. (2018)	Townsscholen 020	Nether-lands	x	x	2 years	x	
Bundshuh et al. (2021)	Finish Strong	US	x		5 years	x	
Chan et al. (2020)	Project Arrive	US	x		2 years	x	
Culpepper et al. (2015)	–	US	x	x	1 year	x	
Fix et al. (2019)	Playing for Success 15–23	Nether-lands		x	18 months, 8–10-week programs	x	
Gordon et al. (2013)	SBMP (school-based mentoring program)	US	x		1 year	x	
Goulet et al. (2018)	Check & Connect	Canada	x		2 years	x	
Goulet et al. (2020)	Check & Connect	Canada		x	2 years	x	
Heppen et al. (2018)	Check & Connect	US	x		3 years	x	
Hickman and Anderson (2019)	Educational Management Organizations model	US		x	Not revealed	x	
Hickman et al. (2020)	Educational Management Organizations model - Grand Solution program	US	x		Not revealed	x	
Itzhaki (2019)	–	Israel	x		Not revealed		x
Kuperminc et al. (2020)	Project Arrive	US	x		1 year	x	
Larose and Châteauvert (2020)	ACCESS	Canada	x		1 year	x	
Larsen et al. (2018)	COMPLETE (DSP: Dream school program, MHST: mental health support team)	Norway	x	x	2 years	x	
Lile et al. (2021)	4H	US	x		–		x
Mac Iver et al. (2017)	Check & Connect approach	US	x		3 years		x
McCarthy (2015)	–	US		x	1 year	x	
McIntosh and Curry (2020)	Black Church-School Partnership	US		x	1 year		x

(Continued)

TABLE 1 (Continued)

Articles	Name of the program	Country	Methods		Length of the program	Type of program	
			Quantitative	Qualitative		School-based	Community-based
Moreno-Candil and Garza (2017)	Adapted Peraj	Mexico	x		1 year		x
Radlick et al. (2020a)	Reconnect/Catalyst	Norway		x	6 months		x
Radlick et al. (2020b)	Reconnect/Catalyst	Norway	x	x	6 months		x
Simões and Alarcão (2014)	School-Based Mentoring Program, Methodology Tutal	Portugal	x		1 year	x	
Wallis et al. (2015)	DreamCatcher Online Mentoring Program	Canada	x		1 semester	x	
Weiler et al. (2019)	Campus Connections	US	x		12 weeks		x

with program coordinators later in the school year, and group mentor meetings are also held at the beginning and end of the academic year.

The Canadian ACCES program offers 2 days of training for professional mentors (i.e., teachers from the schools the mentored students attend.) The first day of the training takes place at the beginning of the program before the teachers meet their mentees, and the next day of training takes place after the mentoring has started. During the training sessions, they learn about the mentor-mentee relationship and the learning objectives through videos and situational exercises. Mentors also receive individual and group supervision during their mentoring year (Larose and Châteauvert, 2020).

In the American Project Arrive program, mentors received a 4-h initial training and are provided with website resources (Kuperminc et al., 2020). In another program, mentors received intensive training on subjects such as establishing and maintaining effective relationships and utilizing strategies for working with vulnerable young people and developing personal competences (Itzhaki, 2019).

In the US SMBP program, first-year mentors receive two 3-h training sessions. The first training takes place at the beginning of the school year and provides an overview of the program's goals, guidelines, and situations that mentors may encounter. Program coordinators provide weekly supervision for mentors throughout the school year. A second training session takes place in the spring, focusing on problem-solving skills (Gordon et al., 2013).

In the Portuguese SMBP program, both volunteer and teachers have to comply with two eligibility criteria: mentors shall (a) have some experience in informal mentoring in schools or communities; and (b) preferably be a member of the permanent teaching staff of the school. They undergo a 16-h training program before the start of the formal school year. The training includes: (a) basic information on the main features of the program; (b) practicing communication and motivational skills for working with students; and (c) planning activities in group and individual mentoring sessions. Additionally, there is constant interaction with mentors and program coordinators throughout the duration of the program (Simões and Alarcão, 2014).

In-process learning, and mentor support is of paramount importance when university students take on the role of mentors in tandem with the initial preparation. The Mexican Peraj mentoring program operates through a central office, which is responsible for the promotion of the program as well as the training, evaluation, and quality control of mentor trainers. This central office is responsible for the preparation and provision of manuals and guidelines for selecting, screening, and matching mentors and mentees, as well as for organizing the annual national Peraj workshop for the exchange of experiences and the training of university staff responsible for facilitating the Peraj program (Moreno-Candil and Garza, 2017).

In Campus Connections, university students who have typically studied mentoring and gained experienced mentoring as volunteers are also included among the mentors. Prior to the launch of the program, mentors attend an 18-h training course focusing on relationship-building skills and best practices in and developmental approaches for mentoring. Additional training and support are provided formally before and after each weekly mentoring session. During these occasions, supervisors offer personalized encouragement, feedback, and guidance on mentoring relationships. Mentors also spend time reflecting on the relationship through weekly journals and discussions with other mentors through the service-learning course (Weiler et al., 2019).

After the mentoring roles, we turn to an analysis of the content of mentoring programs. In this study, we examine a dropout prevention program that includes mentoring; therefore, the program objectives and elements are remarkably similar in the studies reviewed. It is also worth noting that, with two exceptions, the 25 studies evaluated some older programs or their adaptations. The most common of these was the C&C program. Besides preventing dropouts and increasing school attendance (as affective element), academic achievement (as cognitive element) appears as a goal in most studies, as well as the indirect and

TABLE 2 Overview of studies characteristics: from objectives to results.

Articles	Target groups and samples	Mentors	Objectives	Interventions	Results
Abrahamse et al. (2018)	3–6th grade students ($n = 475$), four primary schools	Teachers	Child health, child poverty, child academic achievement	Complex: mentoring with school-based interdisciplinary complex intervention, supporting the school team, parental involvement, improving student learning, health promotion component	Pilot, research protocol
Bundshuh et al. (2021)	Secondary school students, one school ($n = 2,291$)	Adults	Chronic absenteeism, reduction initiative, absenteeism, reduction	Complex: mentoring with monitoring, involving families and increased management visibility (i.e., monitoring student absences regularly, building positive supportive relationships with both students and their parents, clearly communicating attendance policies, helping families receive necessary resources, assigning student mentors, timely monitoring and notifying, staff visibility)	Over the 5 years, absenteeism decreased both within the school and compared to other schools in the school district, but researchers did not examine which element(s) of the program were responsible
Chan et al. (2020)	9–10th grades students, secondary school students ($n = 239$)	Teachers/adults	Increasing student achievement; increasing instructional time, credits earned, and GPA	Weekly group mentoring (2–9 people) to improve academic engagement and set goals	Participants in the programs are more likely to finish secondary school than those not in the program; they are less likely to drop out, but the mentoring had no effect on academic performance
Culpepper et al. (2015)	High school students ($n = 91$)	Teachers/adults	Improving student achievement, self-evaluation, helping students make career choices	e-mentor program, weekly discussions on everyday topics, getting to know each other, topics related to academic achievement, school attendance, self-esteem, career choices	There was no significant difference between the mentored and control groups in terms of self-esteem, career uncertainty, attendance, and academic achievement
Fix et al. (2019)	Four VET schools, mentors ($n = 16$)	Teachers	Adapt curricula more effectively for vulnerable groups; enhance students' engagement for learning	Group mentoring, cooperation with professional sports organizations, sport activity	Positive changes in teacher beliefs; the student-teacher hierarchical relationship changed, and an equal relationship was established between teachers and student; a positive relationship was established between curriculum and students, leading to positive learning experiences
Gordon et al. (2013)	6–10th grade students, middle school, one school district ($n = 578$)	Adults	Reduce absenteeism, improve discipline, increase school attachment	Complex: in addition to mentoring, working with partners and the local community, involving and training parents, training teachers	Compared to the control group, the intervention group had lower absenteeism, less disciplinary problems, and higher school attachment; effect sizes are larger only for the construct of discipline

(Continued)

TABLE 2 (Continued)

Articles	Target groups and samples	Mentors	Objectives	Interventions	Results
Goulet et al. (2018)	Elementary ($n = 145$), secondary school students ($n = 200$) from two school districts	Adults/teachers	Student achievement; school completion; behavioral, emotional, cognitive engagement of the student	Mentoring: check data-tracking, monitoring school performance connecting: meetings, individual assistance, communication with family, promoting parental involvement, promotion of school success problem-solving strategy	Positive outcomes, but not the same factors at younger ages as at secondary school; monitoring is more effective for younger students, while problem solving is more effective for older students; contextual influences are also important, such as mentors and school organization
Goulet et al. (2020)	mentors ($n = 12$) from two school boards	Adults/teachers	Student achievement; school completion; behavioral, emotional, and cognitive engagement of students	Mentoring: check data-tracking, monitoring school performance connecting: meetings, individual assistance, communication with family, promoting parental involvement, promotion of school success problem-solving strategy	It focuses on the contextual factors of implementation, such as the role of the school board and school leadership; the analysis finds that the success of implementation is influenced by available time, teacher collaboration, and the cooperation of the mentor school
Heppen et al. (2018)	8th, 9th, and10th grade students from 10 high schools ($n = 553$)	Semi-professional adults	Student achievement, school completion; behavioral, emotional, and cognitive engagement	Mentoring: monitoring school performance, absenteeism, individual support, facilitating parental involvement, mentors working with schools	Compared to the control group, the mentored students did not show positive results in behavioral, emotional, and cognitive engagement or academic achievement
Hickman and Anderson (2019)	Participants 18–24 years old ($n = 34$)	Adults/teachers	Reducing early school leaving, school completion	Mentoring: communication, academic and personal support, encouragement	The mentors who communicated a combination of encouragement, motivation, understanding and care were perceived to be more effective
Hickman et al. (2020)	Average age of participants was 22 years ($n = 3,491$), mentors ($n = 24$)	Adults/teachers	Reducing early school leaving, school completion	Academic and personal assistance, encouragement	Completion of training was influenced by all independent variables examined; mentees with mentors who had teaching qualifications were more likely to complete the training and mentoring experience; the number of credits at entry, the remaining credits, and the student's progress under the assistance of mentors were also impacted
Itzhaki (2019)	Orthodox Jewish youth aged 14–21 ($n = 261$)	Adults	Keeping religious youth in the community, improving self-esteem and self-efficacy	Religious support for young people (personal, social, and psychological aspects such as well-being and loneliness)	Points out the contradiction of mentoring support, with those who were still in training and at risk of dropping out having a mild positive effect, while for dropouts mentoring had a negative effect; higher levels of self-esteem, well-being and loneliness were associated with mentoring support

(Continued)

TABLE 2 (Continued)

Articles	Target groups and samples	Mentors	Objectives	Interventions	Results
Kuperminc et al. (2020)	9th grade students ($n = 114$)	Teachers/adults	Academic performance	Group mentoring (6–8 students per week), academic support, homework check, community building, school bonding	Compared to the control group, there were strong effects for program participants in terms of external resources, including school support, school belonging, school participation, peer relationships, prosocial peer relationships, peer relationships, and home participation; there was little evidence of an impact of the program on internal resources, with no change in self-awareness, self-efficacy, and empathy, and only improvements in problem-solving skills
Larose and Châteauvert (2020)	First year high school student ($n = 115$)	Teachers	Preventing early school leaving, transitioning from primary to secondary school	Mentoring to help with the transition from primary to secondary school, helping to achieve learning goals, efficiency, motivation, academic persistence	The quality of mentoring positively influenced academic effectiveness, motivation and persistence; the quality of the teacher-student mentoring relationships positively predicted changes in academic adjustment, especially when at-risk students showed poor mastery of goals at program entry (i.e., a compensatory effect); the quality of the mentor-mentee relationship did not show a mediating effect on academic adjustment
Larsen et al. (2018)	Upper secondary school from 17 schools	Peers	Academic achievement, academic persistence, school completion, mental health, well-being	Complex: holistic support for the learning environment, systematic interlinking of student services, ensuring access, facilitating transition to lower and upper secondary school, close monitoring of at-risk students and absenteeism, improving pupils' mental health and wellbeing by involving peer mentors, improving school attendance	Pilot and research protocol
Lile et al. (2021)	Students aged 12–19 ($n = 93$)	Adults	Strengthening belonging, mastery, independence, and generosity	During mentoring students completed meaningful, hand-on projects in and outside of their school environment	The evaluation data confirms that young people rated those aspects of the program the most valuable that helped them to learn new skills, form new positive relationships, and the opportunity to teach and serve others

(Continued)

TABLE 2 (Continued)

Articles	Target groups and samples	Mentors	Objectives	Interventions	Results
Mac Iver et al. (2017)	6–8th graders, middle school students, five school district	Adults/teachers	Reducing absenteeism; ensuring student attendance, good behavior, student performance, and graduation	One hour of mentoring per week, personal support, signposting follow-ups, cooperating with parents and partner organizations	Survey respondents reported positive experiences of mentoring, but no significant impact of the program on student attendance, behavior, and success in courses; this may be because they did not measure school contextual influences that could have affected this construct
McCarthy (2015)	Mentors ($n = 4$)	Teachers	Raising the achievement of secondary school Indian students	Mentoring: increasing cultural content in the curriculum and school community, building culturally sensitive supportive relationships with trust, engagement, self-advocacy, and empowerment	The interviews with mentors showed that the students did not always achieve better academic results, but that they promoted self-empowerment and students' responsibility for their own learning; the mentors' and teachers' cultural sensitivity increased
McIntosh and Curry (2020)	African American high school students ($n = 7$), mentors, and partners ($n = 8$)	Adults	Successful completion of secondary school	Mentoring: academic, healthy lifestyle support, group mentoring and support on crime and drug prevention issues	This partnership that was deeply embedded in the local community had a positive impact on students' educational outcomes; the church mentors' and school's commitment to equity and engagement motivated students to persevere in their educational endeavors
Moreno-Candil and Garza (2017)	5–6th grades, primary school pupils ($n = 2{,}996$)	University students	The program's objective was to strengthen children's self-esteem, social skills, and motivation, improve their study habits, and expand their horizons and general culture	Academic and personal support: affective, communication, academic, social, motivational, cultural	Program reduced the risk of participating children dropping out of school; for non-participants, the risk of dropping out increased over the course of the school year
Radlick et al. (2020a)	Young migrants aged 16–25, mentors ($n = 28$)	Adults	Finishing school, promoting mental health	Running a digital platform to develop specific goals or skills	The program helped to strengthen the social capital of the mentored students, increase their sense of belonging, and enhance their knowledge building, goal attainment, and confidence levels
Radlick et al. (2020b)	Young migrant school leavers aged 15–25, mentors ($n =$ appr. 40–40)	Adults	Increasing social capital, promoting physical and mental health	Running a digital platform	Pilot study and research protocol; the program helped to strengthen the social capital of the mentored students and indirectly improved their health
Simões and Alarcão (2014)	5–8th grade students from six schools ($n = 317$)	Teachers	Improving student performance, reducing absenteeism, supporting basic psychological needs (BPN)	Mentoring week 1: academic, personal, relationship support, setting future learning goals, additional learning, combining individual and group mentoring that focuses on schoolwork, social relationships, and integration	The program was effective in improving the primary school performance of mentored students compared to non-mentored students, with a significant reduction in the number of unexcused absences of mentored students; but satisfaction with basic psychological needs (BPN), was generally not associated with improvement in the mentored students.

(Continued)

TABLE 2 (Continued)

Articles	Target groups and samples	Mentors	Objectives	Interventions	Results
Wallis et al. (2015)	aboriginal high school students (12th grades) ($n = 79$)	teacher	reducing early school leaving	online mentoring: increasing interest and engagement in school	Both Aboriginal and non-Aboriginal students successfully participated in the DCM program; engagement was greater for students with the mentors who discussed academic goals but also took time to get to know mentees
Weiler et al. (2019)	Young people aged 11–18 at risk of juvenile delinquency ($n = 286$), mentors ($n = 204$)	Young adults, adult university students	Academic performance, preventing dropouts	Mentoring: academic, pro-social and mental health support group mentoring: mentors and mentees organized into small groups	Compared to young people matched with an overly focused or under focused mentor, young people matched with a focused mentor were more likely to perceive school as important and useful; youth paired with an attuned mentor reported higher academic self-efficacy and less truancy compared to their peers in the overfocused mentor group; no significant differences in GPA were observed as a result of the intervention

direct factors explaining these three phenomena, such as the reduction of absenteeism and disciplinary matters as direct, significant contributors to drop-outs. There are different terminologies related to expressions like perseverance, motivation, school engagement (behavioral, emotional, and cognitive), attachment to school, community belonging and social relationships. Individual psychological characteristics such as the development of self-awareness, self-esteem, and self-efficacy are also mentioned. In four studies, dropout is also discussed in the context of physical and mental health (i.e., the program aims to improve physical and mental health through the prevention of dropout) (Abrahamse et al., 2018; Larsen et al., 2018; Weiler et al., 2019; McIntosh and Curry, 2020).

Programs may also be classified according to what other interventions include in addition to mentoring, and thus some school-based programs are more complex with mentoring being just one element. Four studies present a complex intervention, which usually involves, in additional to the mentoring element, additional training and support for the entire teaching staff, leadership team not only at the mentoring level but also often at the school level. Parents also play a key role in these complex programs, which have the overall aim of increasing parental engagement, improving communication between school and parents, building community and strengthening parental roles and skills (Gordon et al., 2013; Abrahamse et al., 2018; Larsen et al., 2018; Bundshuh et al., 2021).

Mentoring programs and sessions can also be categorized as individual or group, as well as face-to-face or online. Among the studies analyzed, individual mentoring was the most common, including only one program (Project Arrive) and two studies in which group mentoring was implemented (Chan et al., 2020; Kuperminc et al., 2020). The concept behind group mentoring is that it builds not only a mentor-mentee relationship but also positive peer relationships that can enhance the effectiveness of mentoring. However, there were also some individual mentoring programs where certain elements were implemented in groups. These also reflect the community-building objective. Four studies reported e-mentoring programs, but only two of these were entirely digital. In the other two the digital platform was created to complement a face-to-face support program (Radlick et al., 2020a,b). The digital platform facilitates communication not only between mentor and mentee, but also between mentees and the mentee, and it also offers the possibility of sharing information.

3.2. The effectiveness of mentoring

In the next part of our analysis, we will concentrate on exploring the effectiveness of these mentoring programs and the factors that influence them, focusing on the characteristics of mentors. Of the 25 studies, two were research protocols and pilot research descriptions, and the results were not analyzed. Of the other 23 studies, 12 reported clear positive results from the intervention, nine were ambivalent (i.e., not all target variables were positively changed), and two showed no change as a result of mentoring. It is important to highlight that the studies with an experimental design were more likely to report non-favorable results than those with a different methodological design. Of the 11 studies with no change or not all with a positive change, only two articles were of a non-experimental (randomized or quasi-randomized) design. In terms of the complexity of the interventions, no difference can be detected between complex and mentoring-only programs, with both showing results with and without change.

In general, interventions were more successful in reducing absenteeism and disciplinary issues, and such affective elements as poor school attendance, negative attitudes to school (involvement, engagement, attachment), and unhealthy peer relationships. Interventions were not fully successful according to some studies in areas such as academic achievement and basic psychological needs, as

well as individual psychological factors like self-esteem, self-awareness, and self-efficacy. It should be noted, however, that this finding is mainly valid for studies in which mentoring was implemented in groups.

In particular, the group mentoring program showed that the external resources of the mentored participants increased more than the control group, so that in addition to school attachment they had better peer relations, prosocial behavior, and support at home. However, the program was less conducive for developing individual factors such as self-awareness, self-efficacy, and empathy (Kuperminc et al., 2020).

For those studies in which there was no change as a result of mentoring, it was determined that this primarily resulted from implementation problems. Lack of time, insufficient knowledge and preparation of mentors, and the lack of involvement and interest of learners were the most common factors. Heppen et al. (2018) highlight that, on the one hand, newly recruited mentors in the program felt they did not have the right relationships at the start of the intervention to enable them to work effectively, making in necessary from them to build relationships with the school, students, and parents during the intervention. It should be noted that in the Canadian adaptation of the program, it was achieved by selecting mentors from among those already familiar with and employed by the school (Goulet et al., 2018) in an attempt to eliminate the factor of the mentor having to build new relationships with the staff and other partners. Heppen et al. (2018) also point out that the previous research that found a positive impact of the program was conducted with younger age groups. Furthermore, the movement of students between schools also made the implementation of the intervention very difficult, and the effectiveness of the program was likely weakened by the transfer of students to other schools, as this made it more difficult for mentors to follow up and maintain contact. They also raised the question of whether school-based or community-based mentoring is more effective, as community-based mentoring eliminates the problems associated with changing schools. Other school-based mentoring programs, however, emphasize that the program promotes belonging, meaningful and active participation in schools (Kuperminc et al., 2020), which a community mentoring program cannot achieve. Mac Iver et al. (2017) emphasize in their study that even a carefully designed and relatively well implemented mentoring program may not have the expected short-term impact on students' academic outcomes. Mentoring interventions such as these, which are largely conducted outside schools by external organizations, may not sufficiently address the broader school factors that are associated with student success. Even when they provide a caring mentor who encourages good behavior, such as school attendance and homework completion, they do not affect the quality of teacher-student relationships, classroom climate, or student climate. Simões and Alarcão (2014), on the other hand, consider the school-based teacher mentor to be more effective because the teacher is aware of the learning requirements and expectations, and is thus better able to communicate than a non-professional mentor.

Although the literature suggests that mentoring characteristics influence the effectiveness of mentoring, only nine studies examined mentoring characteristics. Three of these studies focused exclusively on mentors using qualitative approaches. Fix et al. (2019) examined teacher beliefs, finding that mentoring changed the student-teacher hierarchical relation, creating an equal relationship between teachers and students with a positive impact on the student's learning experience. McCarthy (2015) points out that mentoring facilitated the development of students' self-advocacy and responsibility for their own learning, but also brought about changes in the mentors as they worked with Indigenous American students to increase their cultural sensitivity. The third paper examined the success of the implementation of a mentoring program in schools. It found that the contextual factors of implementation have a significant impact on the effectiveness of a program, and the role of the school board and administration is paramount. The analysis also concludes that the success of implementation is influenced by the time available as well as the quality of collaboration between teachers, schools, and mentors (Goulet et al., 2020). The authors highlight that the context, circumstances, and overall experiences of program implementation are more conducive to understanding the effects of programs than a simple evaluation of the activities implemented in the program.

Regarding the success of programs, five studies investigated whether different mentoring characteristics cause differences in the effectiveness of mentoring by surveying both students and their mentors. A study by Hickman and Anderson (2019) highlights mentors whose communication was encouraging, motivating, understanding, and caring. They were perceived as more effective by the mentees. In another study, Hickman et al. (2020) highlight that learners were more likely to complete their education if the mentor had a teaching qualification, arguing that it is important to give preference to individuals with teaching experience when recruiting mentors. In addition, the study also highlights that previous mentoring experience was also a determining factor in a learner's success.

Larose and Châteauvert (2020) investigated the effects of the quality of mentoring on the learner. They examined the quality of mentoring from two perspectives: mutual agreement on goals and the bond and personal relationship between the mentor and mentee. It was found that the quality of mentoring positively influences the student's academic performance, motivation, and persistence. The quality of the teacher-student mentoring relationship positively predicted changes in academic adjustment, especially when at-risk students showed poor mastery goal orientation at program entry (i.e., when mentoring had a compensatory effect). However, the quality of the mentor-mentee relationship did not show a mediating effect on academic adjustment.

On the implementation of mentoring, Wallis et al. (2015) highlight findings that engagement appears to be more successful in cases where mentors and mentees not only discussed learning goals but also dedicated time to socialize with each other. In other study (Weiler et al., 2019), mentors were divided into three groups depending on how connected they were with their mentors, identifying aligned, hyper focused, and under focused mentor-mentee pairs. The pairing was based on the extent to which the mentor's relatively high academic support-seeking behavior and the mentee's desire for academic support were in line. The results of the study highlighted that young people paired with a compatible mentor were more likely to perceive school as important and helpful, and to report higher academic self-efficacy and less truancy than other groups.

4. Discussion

Early school leaving has a negative impact on individuals and society who drop out (Gitschthaler and Nairz-Wirth, 2018). The paper

reviews the primary empirical research that has been conducted on the potential prevention of drop-out through mentoring. As systematic reviews have already been conducted on this topic, we have looked at the period between 2013 and 2021 to complement and update them. Following our search strategy, we performed a qualitative analysis of 25 studies. Our analysis is structured around three research questions: what target groups, mentoring roles and program elements have been identified in empirical research; how did mentoring change the learners; what mentoring characteristics influenced the mentoring process?

In terms of target groups, it can be established that studies about dropout prevention mentoring programs primarily focus on the secondary school age group and they are mostly short-term (i.e., limited to one school year, with a 2-year study being rare). Therefore, our analysis is similar to the systematic analysis of Freeman and Simonsen (2015) in this respect (this study did not only investigate mentoring programs), who have found that there is a scarcity of longitudinal research focusing on early signs of school leaving, or on particular age groups, and multiple risk factors. Research studies are usually less complex and focus on a single risk factor, stay at the individual or small group level, and lack the multi-level, systemic analyses (school or education system). The authors also point out that there is limited intervention related to poverty and race, which are viewed as constant and therefore do not receive much attention. In their view, intervention research needs to go beyond school boundaries in order to mediate these factors, and it should be adapted to local demands and the specificities of student populations. Mentoring programs seem suitable for such purposes. In terms of objectives and target groups, there are programs in our analysis that include the struggle against poverty, and there are several studies and interventions that focus specifically on a particular ethnic group or race. Additionally, the very characteristic of most of the mentoring programs we studied is that they go beyond school boundaries. Community-based mentoring takes place outside the walls of schools, often seeking to engage in collaboration.

Apart from personal and academic support, it is important in mentoring that mentors act as a bridge between the parents, the school, and non-school communities. Establishing relationships with parents is also one of the fundamental aims of school-based mentoring, but many programs also include building and maintaining liaison with various partner organizations.

Several studies have questioned whether community-based or school-based mentoring is more effective. A previous meta-analysis found no difference in effectiveness between the two types of mentoring (Raposa et al., 2019). Perhaps this is not the right question. Assuming that some problems cannot be solved by schools alone, the approaches of community mentoring and school-based mentoring can both achieve their goals if the mentor is appropriate and if adequate support is provided.

The studies examined dealt only briefly with the selection and training of mentors. This could be a more central issue, especially because some studies have illustrated that many mentors are more effective with certain learners and less effective with others. Therefore, the personality and proper training of the mentor are key elements in mentoring. Previous studies have analyzed the demographic and educational profiles of mentors, concluding that elderly mentors (i.e., not peers or university graduates) and mentors with more experiences in helping professions and roles are more effective (DuBois et al., 2002; Raposa et al., 2019). In our analysis, we found no demographic differences between mentors. However, when considering the professional background of mentors, semi-professionals (especially individuals in the helping professions) and those with teaching experience were more effective than others. In addition, the studies reviewed focused less on the variables of mentors and more on the extent to which they were able to establish a relationship with the mentee and the extent to which this relationship was characterized by reciprocity and mutuality. Students were able to be more successful who identified the same objectives as their mentors in terms of what they wanted to achieve during the mentoring process. Mentoring can have an impact not only on students, but also on mentors. There have been several studies that have reported on how the mentoring process has changed an individual's teaching practice and teacher-student relationships, leading to culturally sensitive pedagogy being introduced into classroom practice.

Karaferye (2018) highlights that for mentoring to be effective, mentors need to be trained and supported. In our analysis we found little evidence of this, with few studies reporting in detail on what happens to mentors during mentoring. Several studies describe that there is a preparatory training, but few provide details of the subsequent support. For some programs, this support is more structured and continuous with varied forms. There are examples of individual and group support, not only as supervision but also horizontally, with mentors meeting each other (i.e., with the possibility of learning from one another). There is also a higher degree of planning when the mentor is a young adult or university student.

Mentoring on digital platforms has not yet been reported in previous systematic studies. Our analysis included several such studies, but these were not always stand-alone programs because they were used to complement face-to-face mentoring. E-platforms are not only part of the mentoring process, but they are also (as a kind of unintended consequence) a form of horizontal learning, as these platforms also allow either the mentees or the mentors to interact and learn from each other. The use of digital platforms can be an active support tool for the mentor and mentoring.

In our analysis, it was apparent that a strong evaluation and impact assessment approach has emerged in the research on mentoring programs, as half of the studies presented were experimental studies. It is also clear that the more rigorous methodological studies cannot explain the full extent of the problem, as they primarily focus on students and their perceptions and opinions. There are two interrelated factors that draw attention to recurring problems—the examination of implementation and context. There are studies that examine the accuracy of implementation and the extent to which mentors and mentees implement elements of the program, but few studies have examined the contextual influences on the program and how this affects the outcome of mentoring. There is one study formulating it as a limitation, and there is another focusing on exploring the contextual factors, pointing out that it is useless for the mentor to carry out activities in line with the program if the school staff and school leadership do not support this initiative. Neither the school-based nor the community-based program can operate successfully without the involvement of the school and its management, as the aim is to keep students in school and prevent dropouts. It is also in line with Ekstrand's (2015) finding that mentoring cannot be effective without schools participating and assuming responsibility.

Previous systematic analyses (Wilson et al., 2011; Wilson and Tanner-Smith, 2013; Ekstrand, 2015; Karaferye, 2018) and meta-analyses (DuBois et al., 2011; Raposa et al., 2019) report on the effectiveness of the program, even if they do not indicate strong effect sizes. Wood and Mayo-Wilson's (2012) and Tolan et al.'s (2013) analysis found no clear evidence of a positive impact of mentoring. Our analysis is uncertain as well. Although most studies reported positive changes, there were others with no changes indicated or not all target areas showed changes. Mentoring is more effective in affective elements than cognitive, so reducing absenteeism, increasing school engagement and positive peer relationships than in academic achievement. In our analysis, we found several studies where, in addition to contextual effects, the lack of time (the short duration of the intervention) served as an explanation for the ineffectiveness or lower success rate in mentoring. Thus, it differs from other studies where the length of the program was found to have no influence on the effectiveness of mentoring (Raposa et al., 2019).

5. Limitations

The aim of this work is to provide an overview of mentoring programs dedicated to preventing dropouts, although some limitations must be addressed. The process of search might not guarantee full completeness and the absence of bias. Publication bias is to be considered since the studies reviewed were filtered from the seven prominent databases, and only journal articles were included in our analysis (Schmucker et al., 2013). We need to take into account linguistic bias as well, since only English literature was analyzed.

6. Conclusion

Our analysis sought to inform the findings of previous systematic literatures by presenting mentoring practices that aim to prevent school dropout. Previous analyses and the present one found that mentoring programs have positive, variable outcomes, though they do not always provide impressive results. It is also worth pointing out that most studies report about the weakening of risk factors and the strengthening of protective factors and their results, rather than specifically about whether interventions indeed resulted in increased graduation rates.

The use of digital platforms has already appeared in some studies. A further line of research and development could be to investigate how digitalization and artificial intelligence affect the mentoring process in which activities you can provide support the mentoring process.

There is a notable shift in research toward the application of a more rigorous methodological framework. More complex, multi-level, and multi-component research has emerged, drawing attention to the fact that the effectiveness of the mentoring depends not only on the preparation of mentors, their continuous learning and support, and the quality mentor-mentee relationships but also on the context in which the mentoring process occurs. All these factors must also be taken into account when planning mentoring programs.

Solely having well-prepared, committed mentors and mentoring processes cannot prevent dropouts and ensure successful school completion. Due to its personalized nature, mentoring can be an essential supportive tool to utilize during complex, interdependent, and unidirectional pedagogical practice, in which the commitment of the school is also of decisive importance.

Data availability statement

The original contributions presented in the study are included in the article/supplementary material, further inquiries can be directed to the corresponding author.

Author contributions

AF performed the analysis and wrote the first draft of the manuscript. AV contributed to the conception and design of the study and checked the screening, coding. All authors contributed to the article and approved the submitted version.

Funding

The research on which this paper is based has been implemented by the Hungarian Academy of Sciences "For Educational Opportunities!" Research Group (SZKF-11/2021 MTA-PTE) and the Hungarian Academy of Sciences: Research Programme for Public Education Development of the Hungarian Academy of Sciences.

Conflict of interest

The authors declare that the research was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest.

Publisher's note

References

Abrahamse, M. E., Jonkman, C. S., and Harting, J. (2018). A school-based interdisciplinary approach to promote health and academic achievement among children in a deprived neighbourhood: study protocol for a mixed-methods evaluation. *BMC Public Health* 18:465. doi: 10.1186/s12889-018-5309-9

Boylan, R. L., and Renzulli, L. (2017). Routes and reasons out, paths back: the influence of push and pull reasons for leaving school on students' school reengagement. *Youth Soc.* 49, 46–71. doi: 10.1177/0044118X14522078

Bundshuh, H., Ohlson, M., and Swanson, A. (2021). Finding support & significance at school- program evaluation of a chronic absenteeism reduction initiative. *National Youth Advocacy Resilience J.* 5. doi: 10.20429/nyarj.2021.050104

Chan, W. Y., Kuperminc, G. P., Seitz, S., Wilson, C., and Khatib, N. (2020). School-based group mentoring and academic outcomes in vulnerable high-school students. *Youth Soc.* 52, 1220–1237. doi: 10.1177/0044118X19864834

Culpepper, D. W., Hernandez-Gantes, V. M., and Blank, W. E. (2015). Determining the quality and impact of an E-mentoring program on at-risk youth. *Int. J. Adult Vocat. Educ. Technol.* 6, 13–26. doi: 10.4018/IJAVET.2015040102

De Witte, K. J., Cabus, S., Thyssen, G., Groot, H. W., and Witte, M. (2013). A critical review of the literature on school dropout. *Educ. Res. Rev.* 10, 13–28. doi: 10.1016/j.edurev.2013.05.002

Doll, J. J., Eslami, Z., and Walters, L. (2013). Understanding why students drop out of high school, according to their own reports: are they pushed or pulled, or do they fall out? A comparative analysis of seven nationally representative studies. *SAGE Open* 3:215824401350383. doi: 10.1177/2158244013503834

DuBois, D. L., Holloway, B. E., Valentine, J. C., and Cooper, H. (2002). Effectiveness of mentoring programs for youth: a meta-analytic review. *Am. J. Community Psychol.* 30, 157–197. doi: 10.1023/A:1014628810714

DuBois, D. L., Portillo, N., Rhodes, J. E., Silverthorn, N., and Valentine, J. C. (2011). How effective are mentoring programs for youth? A systematic assessment of the evidence. *Psychol. Sci. Public Interest* 12, 57–91. doi: 10.1177/1529100611414806

Ekstrand, B. (2015). What it takes to keep children in school: a research review. *Educ. Rev.* 67, 459–482. doi: 10.1080/00131911.2015.1008406

Fehérvári, A., Felső, E., Benkő, B., and Varga, A. (2022). Preventive programs to reduce early school leaving based on international literature. School Culture. 32 (2), 74–82. Available at: https://ojs.bibl.u-szeged.hu/index.php/iskolakultura/article/view/43607

Fix, G. M., Ritzen, H. T. M., Pieters, J. M., and Kuiper, W. A. J. M. (2019). Effective curricula for at-risk students in vocational education: a study of teachers' practice. *Empir. Res. Vocat. Educ. Training* 11:1. doi: 10.1186/s40461-018-0076-5

Freeman, J., and Simonsen, B. (2015). Examining the impact of policy and practice interventions on high school dropout and school completion rates: a systematic review of the literature. *Rev. Educ. Res.* 85, 205–248. doi: 10.3102/0034654314554431

Gitschthaler, M., and Nairz-Wirth, E. (2018). "The individual and economic costs of early school leaving," *In. Comparative perspectives on early school leaving in the European Union*, eds. PraagL. Van, W. Nouwen, CaudenbergR. Van, N. Clycq and C. Timmerman (London: Routledge), 61–74. doi: 10.4324/9781315170404

González-Rodríguez, D., Vieira, M. J., and Vidal, J. (2019). Factors that influence early school leaving: a comprehensive model. *Educ. Res.* 61, 214–230. doi: 10.1080/00131881.2019.1596034

Gordon, J., Downey, J., and Bangert, A. (2013). Effects of a school-based mentoring program on school behavior and measures of adolescent connectedness. *Sch. Community J.* 23, 227–249.

Goulet, M., Archambault, I., Janosz, M., Bélanger, J., and Christenson, S. L. (2020). Understanding the dynamic interinfluences of implementation processes: an illustration by multiple case studies. *Eval. Program Plann.* 80:101798. doi: 10.1016/j.evalprogplan.2020.101798

Goulet, M., Archambault, I., Janosz, M., and Christenson, S. L. (2018). Evaluating the implementation of check & connect in various school settings: is intervention fidelity necessarily associated with positive outcomes? *Eval. Program Plann.* 68, 34–46. doi: 10.1016/j.evalprogplan.2018.02.004

Heppen, J. B., Zeiser, K., Holtzman, D. J., O'Cummings, M., Christenson, S., and Pohl, A. (2018). Efficacy of the check & connect mentoring program for at-risk general education high school students. *J. Res. Educ. Effect.* 11, 56–82. doi: 10.1080/19345747.2017.1318990

Hickman, G., and Anderson, S. (2019). The perceived impact of educational management organization mentors among former high school dropouts who subsequently graduated high school. *J. At-Risk Issues* 22, 1–8.

Hickman, G., Chinaza, N. K., Bradley, C., and Jody, N. (2020). The predictive nature of mentoring student academic Progress, Mentor educational background, and Mentor tenure among high school dropouts who graduated from an educational management organization. *J. At-Risk Issues* 23, 15–24.

Hong, Q. N., Pluye, P., Fàbregues, S., Bartlett, G., Boardman, F., Cargo, M., et al. (2018). *Mixed Methods Appraisal Tool (MMAT), version 2018. Registration of copyright (#1148552)* Canadian Intellectual Property Office, Industry Canada.

Itzhaki, Y. (2019). The different role of Mentor support along the high-school dropout process. *Youth Soc.* 51, 981–1008. doi: 10.1177/0044118X18803260

Karaferye, F. (2018). Student mentoring models: a systematic review conference: III Ines International Education and Social Science Congress Full Text Book. 500–506. Available at: https://www.cizgikitabevi.com/kitap/818-ines-full-text-2018

Kuperminc, G. P., Chan, W. Y., Hale, K. E., Joseph, H. L., and Delbasso, C. A. (2020). The role of school-based group mentoring in promoting resilience among vulnerable high school students. *Am. J. Community Psychol.* 65, 136–148. doi: 10.1002/ajcp.12347

Larose, D., and Châteauvert, B. (2020). How does mentoring by teachers improve the adjustment of academically at-risk students in high school? *Int. J. School Educ. Psychol.* 8, 36–49. doi: 10.1080/21683603.2018.1509035

Larsen, T., Urke, H. B., Holsen, I., Anvik, C. H., Olsen, T., Waldahl, R. H., et al. (2018). COMPLETE - a school-based intervention project to increase completion of upper secondary school in Norway: study protocol for a cluster randomized controlled trial. *BMC Public Health* 18:340. doi: 10.1186/s12889-018-5241-z

Lile, J. R., Weybright, E. H., and Watson, P. (2021). Using the 4-H essential elements to evaluate teen programming. *J. Youth Dev.* 16, 55–73. doi: 10.5195/jyd.2021.906

Lyche, C. S. (2010). Taking on the completion challenge a literature review on policies to prevent dropout and early school leaving. *OECD Education Working Paper, No. 53*. doi: 10.1787/19939019

Mac Iver, M. A., Sheldon, S., Naeger, S., and Clark, E. (2017). Mentoring students Back on-track to graduation: program results from five communities. *Educ. Urban Soc.* 49, 643–675. doi: 10.1177/0013124516645164

Maldonado, E. J., and De Witte, K. (2021). The effect of school closures on standardised student test outcomes. *Br. Educ. Res. J.* 48, 49–94. doi: 10.1002/berj.3754

McCarthy, G. (2015). Mentoring American Indian students in an urban high school. *J. Am. Ind. Educ.* 54, 98–112. doi: 10.1353/jaie.2015.a835511

McDermott, E. R., Anderson, S., and Zaff, J. F. (2018). Dropout typologies: relating profiles of risk and support to later educational re-engagement. *Appl. Dev. Sci.* 22, 217–232. doi: 10.1080/10888691.2016.1270764

McIntosh, R., and Curry, K. (2020). The role of a black Church-School Partnership in Supporting the educational achievement of African American students. *Sch. Community J.* 30, 161–189.

Moreno-Candil, D., and Garza, M. (2017). A pilot study of the impact of the PERAJ mentoring program on school dropout risk of Mexican children. *J. Community Psychol.* 45, 315–332. doi: 10.1002/jcop.21849

Page, M. J., McKenzie, J. E., Bossuyt, P. M., Boutron, I., Hoffmann, T. C., Mulrow, C. D., et al. (2021). The PRISMA 2020 statement: an updated guideline for reporting systematic reviews. *BMJ* 372:n71. doi: 10.1136/bmj.n71

Radlick, R. L., Mirkovic, J., Przedpelska, S., Brendmo, E. H., and Gammon, D. (2020a). Experiences and needs of multicultural youth and their mentors, and implications for digital mentoring platforms: qualitative exploratory study. *JMIR Format. Res.* 4:e15500. doi: 10.2196/15500

Radlick, R. L., Svedberg, P., Nygren, J. M., Przedpelska, S., and Gammon, D. (2020b). Digitally enhanced mentoring for immigrant youth social capital: protocol for a mixed methods pilot study and a randomized controlled trial. *JMIR Res. Protoc.* 9:e16472. doi: 10.2196/16472

Raposa, E. B., Rhodes, J., Stams, C. N., Burton, S., Sykes, L. A., Kanchewa, S., et al. (2019). The effects of youth mentoring programs: a Meta-analysis of outcome studies. *J. Youth Adolesc.* 48, 423–443. doi: 10.1007/s10964-019-00982-8

Rumberger, R. W. (2012). *Dropping out: why students drop out of high school and what can be done about it*. Cambridge, MA: Harvard University Press.

Schmucker, C., Bluemle, A., Briel, M. P. S., Lang, B., Motschall, E., Schwarzer, G., et al. (2013). A protocol for a systematic review on the impact of unpublished studies and studies published in the gray literature in meta-analyses. *Syst. Rev.* 2:24. doi: 10.1186/2046-4053-2-24

Shaffril, H. A. M., Abu Samah, A., Samsuddin, S. F., and Ali, Z. (2019). Mirror-mirror on the wall, what climate change adaptation strategies are practiced by the Asian's fishermen of all? *J. Clean. Prod.* 232, 104–117. doi: 10.1016/j.jclepro.2019.05.262

Shaffril, M. H. A., Samsuddin, S. F., and Abu Samah, A. (2021). The ABC of systematic literature review: the basic methodological guidance for beginners. *Qual. Quant.* 55, 1319–1346. doi: 10.1007/s11135-020-01059-6

Simões, F., and Alarcão, M. (2014). Mentors and teachers: testing the effectiveness of simultaneous roles on school performance from a basic psychological needs perspective. *Instr. Sci.* 42, 465–483. doi: 10.1007/s11251-013-9288-z

Tanner-Smith, E., and Wilson, S. J. (2013). A Meta-analysis of the effects of dropout prevention programs on school absenteeism. *Prev. Sci.* 14, 468–478. doi: 10.1007/s11121-012-0330-1

Tolan, P., Henry, D., Schoeny, M., Bass, A., Lovegrove, P., and Nichols, E. (2013). Mentoring interventions to affect juvenile delinquency and associated problems: a systematic review. *Campbell Syst. Rev.* 9, 1–158. doi: 10.4073/csr.2013.10

Wallis, J. A. M., Riddell, J. K., Smith, C., Silvertown, J., and Pepler, D. J. (2015). Investigating patterns of participation and conversation content in an online mentoring program for northern Canadian youth. *Mentor. Tutor. Partnership Learn.* 23, 228–247. doi: 10.1080/13611267.2015.1072395

Weiler, L. M., Chesmore, A. A., Pryce, J., Haddock, S. A., and Rhodes, T. (2019). Mentor response to youth academic support-seeking behavior: does attunement matter? *Youth Soc.* 51, 548–569. doi: 10.1177/0044118X17697235

Werner, K., and Woessmann, L. (2021). The legacy of Covid-19 in education. *CESifo Working Paper No. 9358*. doi: 10.2139/ssrn.3945280

Wilson, S., Lipsey, M., Morrison, J., Steinka-Fry, K., and Tanner-Smith, E. (2011). Dropout prevention and intervention programs: effects of school completion and dropout among school-aged children and youth. *The Campbell Collaboration* 7, 1–61. doi: 10.4073/csr.2011.8

Wilson, S. J., and Tanner-Smith, E. (2013). Dropout prevention and intervention programs for improving school completion among school-aged children and youth: a systematic review. *J. Soc. Soc. Work Res.* 4, 357–372. doi: 10.5243/jsswr.2013.22

Wood, S., and Mayo-Wilson, E. (2012). School-based mentoring for adolescents: a systematic review and Meta-analysis. *Res. Soc. Work. Pract.* 22, 257–269. doi: 10.1177/1049731511430836