Review

Scoping Review of Self-Directed Online Learning, Public School Students' Mental Health, and COVID-19 in Noting Positive Psychosocial Outcomes with Self-Initiated Learning

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Abstract: During COVID-19, self-directed learning, contrasted with standardized learning, became a necessary and promoted learning method in public schools—one potentially supportive of mental health regularly in public schools through the use of online learning. This is important because negative mental health has been classified as a global crisis, with the highest and lowest student achievers recognized as at greatest risk. Therefore, the conditions under which public school students' mental health has been improved, leading to positive psychosocial outcomes, are relevant. Studies have identified that positive psychosocial outcomes in this regard require self-initiation of students' self-directed learning. Also necessary is a reduction in the standardized expectations of parents to lead to positive psychosocial outcomes. Unknown is what research identifies the relevance of both self-initiated self-directed online learning and a reduction in parental expectations of standardization. To investigate this, self-directed learning, online learning, mental health, public schools, and COVID-19 were keywords searched following PRISMA guidelines for scoping reviews. The result: few returns considered either factor and those that did reinforce the need for both. The conclusion: self-initiated self-directed online learning supported by public schools and parents should be central in the aim of reducing the mental health crisis in students post COVID-19.

Keywords: COVID-19; self-directed learning; standardized learning; public schools; mental health; online learning; positive psychosocial outcomes; PRISMA

1. Introduction

The America Medical Association has classified negative mental health in children and adolescents as a global crisis [1]. The World Health Organization Special Initiative for Mental Health (2019–2023): Universal Health Coverage for Mental Health cites suicide as the leading cause of death in young people [2]. Concurrently, it has been noted that the highest achievers in standardized school settings are at the greatest risk for negative mental health [3], a phenomenon well-known in the scientific literature [4]. Furthermore, school dropouts with poor academic performance are found at risk for major depressive symptoms upon reaching adulthood, considered a result of their previous poor academic performance in school [5]. As such, in this children's mental health crisis, standardized learning must be recognized as having a direct and lasting negative mental health effect on both the most and least academically inclined students in public schools.

Public schools are government-sponsored common schools open to all students, aiming to stabilize and reproduce public social values with the intention of guiding individual psychological development from one generation to the next [6] through a standardized method of learning [7] intended to sort students into those expected to maintain the accepted psychosocial belief system and those anticipated to develop psychosocial deviance [8]. As such, standardized educational assessment is designed to reliably discriminate among students concerning the knowledge, skills, and abilities assessed [9] in relation to accepted psychosocial standards. In this way, the stability of school structure

has assumed that students will adjust to the desired standardized methods of school over time [10] (p. 35), rather than recognize that different approaches are needed for different students [11].

Standardized learning is students adopting, believing in, and following the "curricula of initiation" for a particular society, the meaning of which in public schools is set by a ministry of education where these curricula of initiation cannot be modified by the teacher, the pupils, or their parents—no individualized instruction is permitted [12]. Learning is standardized when students are directed to learn in relation to the content of particular tests [13]. Learning is then judged as a percentage of how many questions students correctly answer on such tests. Given that the curricula of initiation cannot be changed by teachers, pupils, or parents, standardized learning identifies with indoctrination. Indoctrination means "infiltrating (drilling, inculcating, etc.) concepts, beliefs and theories into a student's mind". This is done by bypassing the student's "free and critical determination" [14]. Indoctrination leads to state-controlled outcomes in social and political change with severe penalties for transgression [15]. As such, standardized learning promotes negative mental health in students [16].

During the COVID-19 pandemic, public schools underwent significant change [17]. Identified as a pandemic on 11 March 2020 by the World Health Organization (WHO) [18], on 4 May 2023, The Emergency Committee on COVID-19 met and issued a statement on 5 May 2023 in which COVID-19 was downgraded by the WHO as an established and ongoing health issue which no longer constitutes a public health emergency of international concern [19]. During the three years of the COVID-19 pandemic, schools throughout the world were forced to contend with limitations to standardized program delivery that often included full school closure, necessitating an immediate and complete transition to online learning [20]. Defined as internet-delivered education [21], online learning was a necessary change, including in areas in the world where online learning was underdeveloped [22]. Teachers had to quickly establish online teaching skills [23] and students were expected to adjust to learning that was primarily self-directed [24–26].

Self-directed learning is defined as the ability to learn on one's own [27] (p. 17). Self-directed learning in public school students became particularly important regarding various psychosocial factors following the shift from teacher-centered classrooms to learner-centered approaches with online learning during COVID-19 [28]. With respect to online learning, self-directed learning has been recognized to have a strong correlation with academic achievement when the learning is self-initiated [29]. A significant relationship has been demonstrated among digital literacy competence, academic performance, and self-directed learning readiness [30]. Unlike high academic achievement through standardized learning, high academic performance with student-initiated self-directed learning during COVID-19 was found to produce positive psychosocial outcomes [31,32]. However, for those students who did not self-initiate their self-directed learning and did not exhibit self-directed learning readiness, the effect of self-directed learning during COVID-19 has been found to be detrimental [33].

Positive psychosocial outcomes in students are necessary for the current mental health crisis in children to be alleviated [34]. According to transactional theory and research on emotions and coping concerning psychological stress, short-term outcomes represent emotions during and immediately after an encounter, and long-term outcomes involve subjective well-being, social functioning, and somatic health [35,36]. Although short-term emotional outcomes may, when stable, contribute to long-term outcomes [35] (p. 160), it is the long-term positive psychosocial outcomes that are of concern regarding the mental health crisis. As such, positive psychosocial outcomes in association with public schools are those that reduce anxiety, increase resilience, improve well-being, and increase positive mental health in students [37]. In this regard, successful self-initiated self-directed learning represents a problem-focused form of coping especially responsive to contextual factors while the relaxation of parents' expectations concerning the maintenance of standardized expectations is, in contrast, a form of emotion-focused coping influenced by factors relevant

to persons [35]. From this perspective, an individual's appraisal of the situation greatly influences their resulting emotions, coping strategies, and subsequent outcomes [36].

In relation to COVID-19, online learning in association with self-directed learning became a tried and accepted option for public schools that has become a potentially sustainable feature of these schools [38]. This is important, as self-initiated self-directed learning has been found able to promote positive psychosocial outcomes unachievable through standardized learning in public school settings [39]. Yet, there are problems associated with self-directed learning, particularly regarding parental expectations concerning continued standardization of learning [28,40], that can decrease students' school success and mental health if such challenges are not recognized and accommodated.
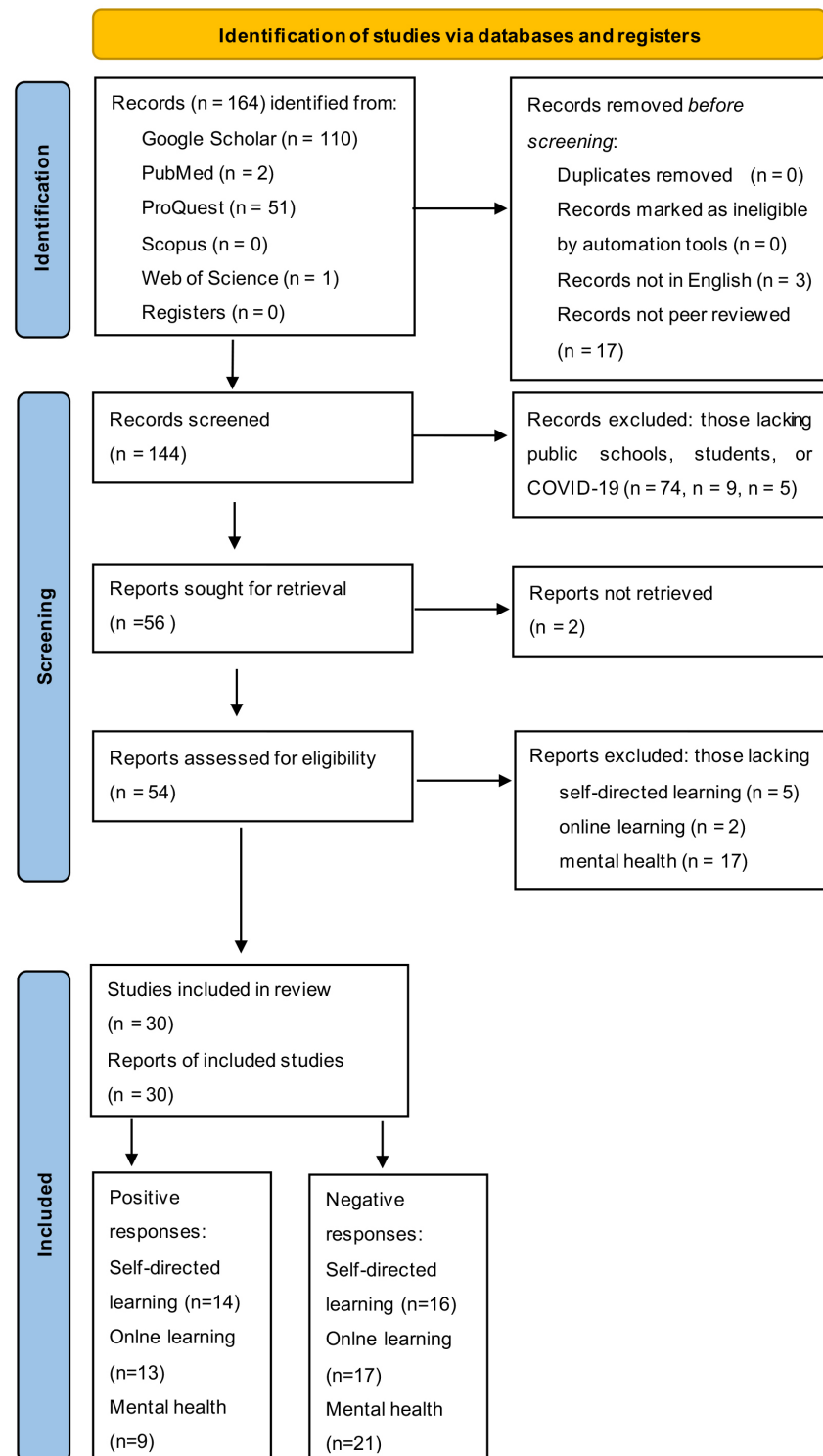
The purpose of this study is to highlight the results of a scoping review of relevant articles concerning self-directed learning, online learning, and mental health regarding public school students during COVID-19 to determine if these articles took into consideration the importance of self-initiation in learning and reduced parental demand that learning be standardized. More generally, the question is, what was the effect of self-directed online learning on the mental health of public school students during the COVID-19-imposed, in-person learning restrictions? Following an evaluation of the returned articles concerning this question, it will be considered in what way self-initiated self-directed learning and reduced parental concern regarding standardized learning might be put into perspective so that the result is an appropriate use of self-directed learning in online learning for the improved mental health of public school students that will lead to positive psychosocial outcomes.

This study is valuable because it is the first scoping review of its kind to evaluate the results of self-directed online learning of public school students with respect to mental health during COVID-19, especially in relation to self-initiation of learning and reduced expectations of parents regarding standardization of their children's learning. It is important because self-directed learning, if self-initiated and unhampered by standardized expectations by parents, has been found able to promote positive mental health in students, leading to positive psychosocial outcomes, unlike what is found with the standardized learning of public schooling. The conclusion is difficulties that have been recognized regarding self-directed learning in public schooling are ones that relate to the perspective taken by researchers regarding the relationship among self-directed learning, online learning, and mental health in public schools. These perspectives can be redirected and difficulties overcome if the focus of research is self-initiation of self-directed learning unimpeded by parental expectations dependent on standardized learning.

2. Materials and Methods

The materials to be gathered and methods used follow the identification of studies via databases and registers. The process begins with an identification of the records and registers, removing duplicates, ineligible records marked by the automation tools, those records not in English, and those that are not peer reviewed. The process continues with the records screened, excluding those fundamentally irrelevant, i.e., those lacking public schools, students, or COVID-19 as keywords, leaving the reports that were sought for retrieval—eliminating those that were unable to be retrieved. The resulting reports were assessed for eligibility, excluding those lacking the keywords specific to the undertaking: self-directed learning, online learning, and mental health. This process resulted in the studies included in the review—all of which represented the reports of the included studies. Positive and negative responses with respect to self-directed learning, online learning, and mental health are then recorded. The resulting included materials are then scrutinized concerning whether they consider the role of either self-initiation of self-directed learning or the role of parental expectations concerning maintaining standardization of their children's online learning. A preferred reporting item for the systematic review and meta-analyses (PRISMA) flow of information diagram specific to scoping reviews was developed. The PRISMA diagram represented in Figure 1 is based on the most recent PRISMA template [41]. Figure 1 follows the flow of exclusion and inclusion criteria conducted over the three

days. As well, the PRISMA Scoping Review Checklist is included in a supplementary file (Table S1) outlining the process undertaken in this article.

Identification of studies via databases and registers

Identification

Records (n = 164) identified from:
Google Scholar (n = 110)
PubMed (n = 2)
ProQuest (n = 51)
Scopus (n = 0)
Web of Science (n = 1)
Registers (n = 0)

Records removed *before screening*:
Duplicates removed (n = 0)
Records marked as ineligible by automation tools (n = 0)
Records not in English (n = 3)
Records not peer reviewed (n = 17)

Screening

Records screened (n = 144)

Records excluded: those lacking public schools, students, or COVID-19 (n = 74, n = 9, n = 5)

Reports sought for retrieval (n = 56)

Reports not retrieved (n = 2)

Reports assessed for eligibility (n = 54)

Reports excluded: those lacking
self-directed learning (n = 5)
online learning (n = 2)
mental health (n = 17)

Included

Studies included in review (n = 30)
Reports of included studies (n = 30)

Positive responses:
Self-directed learning (n=14)
Onlne learning (n=13)
Mental health (n=9)

Negative responses:
Self-directed learning (n=16)
Onlne learning (n=17)
Mental health (n=21)

Figure 1. The preferred reporting items for systematic review and meta-analyses (PRISMA) flow of information chart (Page et al. 2020 [41]) for both a Google Scholar search of the parameter containing the keywords, "self-directed learning, online learning, mental health, public schools, COVID-19", conducted on 30 May 2023, and a search of PubMed, Scopus, and Web of Science on 28 June 2023. Also reported is a search of ProQuest conducted on 29 June 2023 of "self-directed learning, k-12 online learning, mental health, public schools, COVID-19".

As this scoping review concerns a COVID-19 investigation, the requirements of the International Prospective Register of Systematic Reviews (PROSPERO) are relevant. In accordance with the content of the video attached to the requirements webpage of PROSPERO concerning accessing and completing the registration form, this study represents a scoping review defined as "a type of knowledge synthesis that follows a systematic approach to map evidence on a particular topic" [42]. In meeting the definition of a scoping review, this review is not a systematic review. In contrast to a scoping review, a systematic review is a "comprehensive, in-depth analysis of research conducted on a particular question designed to inform clinical practice and policy decisions. The review should be a planned, methodical project that aims to uncover all relevant research via a systematic search, analysis and synthesis of results" [43]. As a scoping review rather than a systematic review, following the instructions provided, registration with PROSPERO is not required.

The collection of the materials of this study began with a Google Scholar search on 30 May 2023 with the following parameter inclusive of five keywords: "self-directed learning, online learning, mental health, public schools, and COVID-19". Google Scholar was chosen for the search as a 2019 study of twelve academic search engines found it the most comprehensive academic search engine [44]. This was additionally reconfirmed with 2023 research [45]. However, in 2020 [46], Google Scholar was evaluated as unsuitable for primary review searches, considering it a supplementary source of evidence. The reason noted is that Google Search does not deliver reproducible results at all times. On the other hand, this same 2020 review continued to acknowledge Google Scholar as the most comprehensive database used by the majority of academics, regardless of its low precision and lack of support for many of the features of systematic searches.

To increase the reach and acceptability of the scope, a 28 June 2023 search was conducted of PubMed, Scopus, Web of Science, and ProQuest using the same parameter as the 30 May 2023 search of Google Scholar. These databases were chosen among others as their entries include both research related to health and that concerning public schools. Upon conducting the searches of each of the databases, it became evident the ProQuest 28 June 2023 search (which returned 691 results for "self-directed learning, online learning, mental health, public schools, COVID-19") consisted primarily of returns related to online learning for other than public school students. Consequently, the ProQuest search was adjusted to "k-12 online learning" rather than "online learning" on 29 June 2023, which returned 51 results.

The methods used in developing the materials included, firstly, searching Google Scholar until its page of ten separate results did not return at least one article with each keyword in the parameter. On 30 May 2023, 11 pages of returns were required to meet this criterion, with 110 distinct entries. The entries were then copied to a Word document to search for duplicates. None were found. As well, there were no records marked as ineligible by automation tools. Following, a tab for each of the 11 pages of the search was created in the Safari browser. The returns were checked for the English language by skimming the abstracts. Concurrently, noting if the publication was in a peer-reviewed journal. There were 3 articles in languages other than English and 17 published in non-peer-reviewed journals, completing the screening portion of the Google Scholar search, leaving 90 articles. Eligibility was determined by reading each abstract to identify if any of the words public schools, students, or COVID-19 were missing from the article. A total of 53 did not include public schools, 2 did not mention students, and none lacked mention of COVID-19, leaving 36 eligible articles from the Google Scholar portion of the search. These remaining articles were further assessed for mention of self-directed learning, online learning, or mental health. This assessment was done by conducting an individual word search for each of the three terms in the remaining articles. There was 1 article that did not mention self-directed learning, 1 that did not refer to online learning, and 12 that lacked discussion of mental health. This left 21 articles from the Google Scholar portion of the search for the final assessment.

Regarding these final 21 articles to be appraised from the Google Scholar search, each was then scrutinized regarding whether the article had a positive or a negative point of view concerning any of self-directed learning, online learning, and mental health. This involved a search for these terms in every one of the articles and identifying the content regarding the terms. The positive responses were 9 for self-directed learning, 9 related to online learning, and 6 concerning mental health. In contrast, the negative responses were 12 regarding self-directed learning, 12 for online learning, and 15 with respect to mental health.

On 28 June 2023, similar methods used to those of the Google Scholar search were followed in relation to creating the materials searched for each of PubMed, Scopus, and Web of Science, in that order. The result was that there were 2 articles returned for PubMed, 0 for Scopus, and one for Web of Science. There were no registers that were searched. The 2 PubMed results were excluded as both concerned post-secondary learning. The Web of Science return passed all tests regarding eligibility that had been undertaken for the Google Scholar search the month before and was included as part of the study. A ProQuest search was also performed on 28 June 2023, returning 691 articles. To ensure that the articles returned were those concerned with public school students, ProQuest was re-searched on 29 June with the keyword "online learning" modified to "k-12 online learning", as it was evident that most of the returns were for post-secondary or adult learning primarily. This additional search limited the returns to 51 articles. Of these, 21 did not concern public schools, 7 did not mention students, and 5 did not relate to COVID-19, making each of these screened articles ineligible for inclusion. Two of the articles searched were unable to be retrieved. Finally, the full text of the articles returned in the ProQuest search of 29 June 2023 was assessed. Excluded were 4 articles that did not mention self-directed learning, 1 that did not refer to online learning, and 5 that did not consider mental health, leaving 8 articles from the ProQuest search that were included for study.

It should be remarked that there were no duplications of these additional articles returned from a search of the other databases with those returned from the Google Scholar search conducted the previous month or among the other databases themselves. This lack of duplication brings into question the fullness of the Google Scholar database and the adequacy of the other databases for searching topics concerning both health and public school learning.

In total, there were 30 articles included as part of the study. The positive responses concerning the three variables under consideration were as follows: self-directed learning—14; online learning—13; and mental health—9. The negative responses were self-directed learning—16; online learning—17; and mental health—21. These included returns were then ready for the later assessment to follow in the Discussion Section regarding whether they considered self-initiation of self-directed online learning or parental expectations concerning maintaining standardized expectations regarding the online learning of their children.

3. Results

The results of applying these methods through the PRISMA flow of information for scoping reviews produced 30 articles for inclusion as the materials. These 30 articles are listed in Table 1 by the order in which they were returned in relation to their research topic while comparing whether the article had a positive or negative view on each of self-directed learning, online learning, and mental health. In total, 16 (53.3%) had a negative response regarding self-directed learning; 17 (56.7)% had a negative response concerning online learning; and 12 (70%) were found to be negative regarding the mental health of students. Concurrently, it was determined if the papers mentioned the importance of self-directed learning being self-initiated and/or that there was parental concern that their children maintain standardized learning during COVID-19 lockdowns. Of the 30 articles, only 8 (26.7%) mentioned self-initiated learning (or some combination of words equivalent to the meaning of self-initiated learning). In contrast, 15 (50%) of the 30 papers referred to parental concern that the learning of their children continues to be standardized.

Table 1. Articles returned from a 30 May 2023 Google Scholar search of "self-directed learning, online learning, mental health, public schools, COVID-19" as well as those returned from a search of PubMed, Scopus, and Web of Science on 28 June 2023, plus the returns of ProQuest search conducted on 29 June 2023 of "self-directed learning, k-12 online learning, mental health, public schools, COVID-19"—listed in order of their return, with each of the following filtered out: (1) duplicates, returns not published in English or not in peer reviewed journals; (2) do not include any of public schooling, students or COVID-19, or (3) missing one or more of self-directed learning, online learning or mental health—examined for positive (+) or negative (–) assessments regarding each of self-directed learning, online learning, mental health and whether the articles mention the importance of self-initiated learning or parental concern that learning be standardized—Yes = ✓, No = ✗.

Research Topic on Public Schools Regarding COVID-19	Self-Directed	Online Learning	Mental Health	Self-Initiated	Parental Concern
Impact of information literacy	+	+	+	✗	✓
Motivating online learning	+	–	–	✗	✗
Learning in isolation	–	–	–	✗	✓
High school student-athlete experiences	–	–	–	✗	✓
High school experience of online learning	–	+	–	✗	✓
Self-directed learning on learning outcomes in MOOCs	+	+	+	✓	✗
Students' self-directed learning in English (foreign language)	+	–	+	✓	✗
Guiding teaching strategies	+	+	+	✗	✓
Students' acceptance towards online learning	–	+	–	✗	✗
Self-directed learning and attitude on online learning	–	–	–	✓	✗
Mental health of high school students	+	+	+	✗	✓
School connectedness still matters	–	–	–	✗	✗
Implementation and challenges of online education	–	–	–	✗	✓
Challenges and opportunities in online distance learning	+	+	–	✗	✓
Student evaluations of transitioned-online courses	–	–	–	✗	✗
Adaptability and high school students' online learning	–	+	–	✗	✓
The impact of learning on science, social, and digital literacy	–	–	–	✗	✓
Factors affecting students' happiness on online learning	+	+	+	✓	✗
A comparison of online learning challenges	–	–	–	✗	✓
"Teachers act like we're robots"	–	–	–	✗	✓
A literature review on teaching and learning	+	–	–	✗	✗
Socioeconomic inequality	–	–	–	✗	✗
The school of the future	+	+	+	✓	✗
Digital engagement and academic functioning	+	+	–	✓	✗
Effects of the COVID-19 pandemic on K-12 education	+	–	+	✗	✓
High school physical education teachers' perceptions	–	–	–	✗	✓
Online learning and students' mathematics motivation	–	+	–	✗	✗
Challenges to learners in interpreting self as other	+	+	+	✓	✗
Lower secondary school students' barriers to learning	+	–	–	✓	✗
The home-school linkage	–	–	–	✗	✓

In this scoping review of articles containing "self-directed learning, online learning (for ProQuest, k-12 online learning), mental health, public schools, and COVID-19", the intent is to identify papers mentioning the relationship between self-directed online learning and the self-initiation of learning, as these factors have been found to promote academic success combined with positive mental health [31,32,39]. In addition, it was to recognize those articles stressing parental concern regarding maintaining standardized learning, as this

type of concern by parents during COVID-19 has been found to reduce their children's academic success and promote negative mental health [33,40]. It is important to make these assessments to advance positive psychosocial outcomes for public school students if the mental health crisis in children is to be reduced.

Of the articles assessed, 19 of the 30 (63.3%) articles have either all negative or all positive assessments of each of the three variables. Of these, 7 articles (23.3% of all articles) are entirely positive regarding self-direction, online learning, and mental health. The other 12 (40% of all articles) have completely negative assessments of each of self-direction, online learning, and mental health. For those articles that were neither all positive nor all negative in their assessment of self-directed learning, online learning, and mental health regarding public school students during COVID-19, 2 (6.7%) were positive with respect to both self-direction and the mental health of the public school students during COVID-19, but negative regarding online learning. A total of 2 (6.7%) found self-directed learning and online learning to both provide positive results during the pandemic but, at the same time, create poor mental health. No articles (0%) were positive towards online learning and mental health but negative regarding self-directed learning. There were 3 articles (10%) that were positive about self-directed learning but negative concerning both online learning and the student's mental health; 4 (13.3%) judged online learning as positive but were negative about both self-direction and mental health of public school students. There were no articles (0%) in which the authors were positive about the mental health of public school students but negative regarding both self-direction and online learning. The low percentages of articles with other than all positive or all negative assessments demonstrate that authors are more likely to be polarized one way or the other regarding the effect of this parameter containing each of these keywords.

Of the articles included in this study 8 (26.7%) focus on self-initiated learning and 15 (50%) mention parental concerns regarding their children continuing with standardized schooling expectations (see Table 1). As positive mental health in public school students has been found in those students who self-initiate their learning without expectation from their parents that they focus on maintaining standardized school work [31–33,39,40], it is relevant to now turn to a discussion of the articles returned in the scoping review that mention self-initiated learning (or refer to learning based on what the student personally values) and those that refer to parental concern that standardized learning is retained.

4. Discussion

This discussion will examine the 30 articles returned in this scoping review from conducting the 30 May 2023 Google Scholar search, plus the 28 June 2023 search of PubMed, Scopus, and Web of Science, as well as the 29 June search of ProQuest. In considering self-initiated learning and parental concern that standardized learning be maintained during the COVID-19 lockdowns, the purpose of this examination will be to find under what conditions self-directed learning has an effect on mental health during online learning. To accomplish this, the discussion will be divided into categories of positive assessments and negative assessments. Within these divisions, those articles that found positive effects for each of the three variables (self-directed learning, online learning, and mental health) will be the first considered. Following, those with a positive effect for any two of the variables and a negative result for one will be assessed. After which, articles finding a positive effect for only one of these variables while a negative effect for the other two variables will be examined. Once the positive assessments are examined, all negative evaluations will follow. After this section, the next looks at both self-initiated learning and parental concern regarding retaining standardized learning along with self-directed online learning during COVID-19. Lastly, a limitations section for this study will be presented based on this discussion.

4.1. Positive and/or Negative Assessments for Each of the Three Variables

4.1.1. All Positive

The research topics of those articles that had a positive evaluation of all of self-directed learning, online learning, and mental health of public school students during COVID-19 included the following (see Table 1): Impact of information literacy [47]; Self-directed learning on learning outcomes in MOOCs [48]; Guiding teaching strategies [49]; Mental health of high school students [50]; Factors affecting students' happiness on online learning [51]; The school of the future [52]; and Challenges to learners in interpreting self as other [53]. To be discussed is if these articles mention the importance of self-directed learning being self-initiated and parents relaxing their concern that learning be standardized. Self-directed learning has been found to have a positive outcome in public school students during COVID-19 if the online learning undertaken was self-initiated [31,32,39]. Otherwise, self-directed learning has a negative result [33].

The article on the impact of information literacy [47] reports on a study of Chinese public school students. A positive correlation was found among self-directed learning, online learning, and positive mental health. Yet, this was a result of self-directed learning being understood by the authors to mean that the students self-direct to accomplish socially acceptable tasks, not the understanding of the term as learning guided by what students personally value [54,55]. The focus of the authors is creating a "harmonious and independent online learning atmosphere". In other words, the meaning of self-directed learning is contrary to demonstrating trust in the students' ability to actually self-direct their learning. The article does not mention self-initiated learning because the learning supported by these authors is opposed to self-initiated. The success of online learning and positive mental health reported has come from teacher and parent-controlled learning, rather than self-initiated self-directed learning.

The second article, concerning self-directed learning on learning outcomes in massive open online courses (MOOCs) [48], does not mention self-initiated learning per se. However, it does refer to self-regulated, self-managed, and self-monitored learning. The authors understand self-directed learning to come from learning engagements preferred by the student, rather than skills development by teachers and parents. These authors identify MOOCs as learning environments providing learners with "unprecedented autonomy in learning". It is in providing this autonomy that this particular type of online learning provides positive mental health to students. The concerns of parents regarding standardized learning are not mentioned.

The third article that finds a positive connection among self-directed learning, online learning, and mental health investigates guiding teacher strategies [49]. This is another article from China relating self-directed learning to "Strict Management of Online Teaching", including behavior and emotional management of students. This strict management is considered to result in positive mental health. Consequently, although this article is positive regarding each of the variables, rather than referring to self-directed learning, it can better be equated to self-controlled learning. As such, there is no necessity to discuss self-initiated learning because self-directed learning is not considered apart from standard expectations. The role of parents is to communicate with teachers regularly to form "a good home-school co-education model"; in other words, to provide support for standardized learning.

The fourth article reports on a study of the mental health of high school students [50] in providing a positive view of the three variables. The primary concern of this paper is the mental health of students—the fact of students self-directing their learning and doing so online is a secondary interest. Both students and parents are described as "shocked" by the move to online learning given the previous expectation of standardized, in-person learning. Although the students initially demonstrated anxiety related to COVID-19, they developed skills to cope with the pandemic through their self-directed online learning leading to positive mental health. There is no discussion of the students' learning and whether or not it was self-initiated.

The fifth article concerns factors affecting students' happiness regarding online learning [51]. From the perspective presented, the need for autonomy "to feel free and self-directed" is imperative. As such, whatever improves the ability of students to self-direct their learning will necessarily make them happier. In this way, self-directed online learning during COVID-19 had the potential to make students happier if they felt free to self-direct their learning. The study found self-directed learning to be a positive experience if this learning is self-initiated. With respect to the role of parents, this article does not discuss parents' expectations regarding standardized learning.

The school of the future is the next paper [52]. It provides positive assessments because the authors contend that students will adjust to self-directed online learning since these methods will be the mainstay of future education. It is because they will adjust that they will have positive mental health. Learning will become individualized, in these authors' estimations. These authors mention neither self-initiated learning nor parental concerns. However, in considering that learning of the future will be individualized, they contend that parents need to educate themselves on the new technologies. In this way, it appears the authors are assuming the importance of self-initiation to learning in the future and to parents letting go of their interest in standardization in their children's learning as future learning will give "students the freedom to express their creativity, cultivate their imaginations, and approach knowledge through entertainment, their interests, and their learning profiles" (p. 77).

Finally, of those papers that are positive regarding each of the three variables, a paper discussing challenges to learners in interpreting self as other [53] makes a clear distinction between students who develop their sense of self by turning to the norm and those who are self-reflective. Those influenced by the norm felt a sense of discomfort with self-directed online learning being required during COVID-19 and their mental health suffered as a result. However, mental health was positive when self-directed learning was embraced through self-reflection. Although the perspective offered does not mention self-initiated learning itself, self-reflective learning is that which is self-initiated. The author stresses that self-directed learning can be developed in students and that, especially with respect to online learning, it should be enhanced as it was found to improve academic performance during COVID-19. The role of parents is to mentor their children to become self-directed learners by helping them reflect on their personal values, rather than demanding adherence to standardized school norms.

4.1.2. Two Positive, One Negative

Students' self-directed learning in English (foreign language) [56], Challenges and opportunities in online distance learning [57], Digital engagement and academic functioning [58], and Effects of the COVID-19 pandemic on k-12 education [59] are the topics of the articles considering two of the three variables to be positive and one of them negative (see Table 1). For the articles that looked at student's self-directed learning in English when studied as a foreign language, and the one concerned with the effects of the COVID-19 pandemic on K-12 education, both self-directed learning and mental health were found to be positive while online learning had a negative effect on the students. In contrast, for the article investigating the challenges and opportunities in online distance learning, and the one regarding digital engagement and academic functioning, self-directed learning and online learning were found to be positive while the mental health of the students was negative.

The article investigating self-directed learning with respect to English language learning determined that COVID-19-demanded self-directed online learning produced three different types of self-directed learners [56]. The first, students who self-initiate their learning and prefer self-directed learning such that self-directed learning is a positive experience. The second group, not inclined to begin self-directed learning on their own, was able to develop into self-directed learners with teacher support. Of the last group, the students were neither interested in self-directed learning nor able to benefit from teacher

accommodations because they were uninterested in learning English. This group did not see self-directed learning positively. What was common among all the students is the poor internet connections they experienced. It is because accessing their online learning consistently and regularly was so difficult for these learners that online learning was judged negatively. Had the connection been reliable, this article would have been among those judging each of the three variables positively. Parents were not mentioned in this article.

Regarding the article concerned with the challenges and opportunities of online distance learning, these authors found that the majority of students adjust well to self-directed online learning [57]. What they could not adjust to was COVID-19, as they remained depressed and anxious because of the pandemic, even though they may have found self-directed online learning to be effective. As a result, the consequence of either self-directed learning or online learning on mental health could not be judged independently from COVID-19, producing a negative assessment regarding mental health. Although this article did not mention self-initiation per se, it did comment on self-motivation to self-direct their learning. However, the type of learning they were self-motivated to pursue was likely standardized as the goal was seen to be that parents should work together with teachers to "deliver quality education among learners" (p. 89).

The authors on digital engagement and academic functioning [58] found most of the literature assesses mental health negatively concerning self-directed online learning being necessitated with COVID-19. However, this result is not considered inevitable by these authors. Rather than "self-initiated", they instead focus on "connected learning", a process where learners' self-regulation is dependent on interest-driven learning. As such, these terms seem equivalent. When connected, student learning is considered to lead to positive mental health. The motivational process dependent on connected learning is found to promote positive mental health. The role of parents with respect to both of the processes is not investigated.

Maintaining standardized learning is the goal of self-directed online learning for the article on the effects of COVID-19 on k-12 education [59]. The role of parents is to supervise their children's self-directed online learning during the pandemic. As parents in this study took this role seriously, student mental health was judged positively. This result was dependent both on parents communicating regularly with teachers and having high-speed internet. In principle, these authors believe that online learning could have been a positive feature alongside self-directed learning and mental health; however, it was not found to be so in practice because of deficiencies in planning for online learning by the school. As this paper's focus is retaining standardized learning during COVID-19, self-initiated learning was not considered.

4.1.3. One Positive, Two Negative

Having one positive result and two negative were seven articles listed in Table 1. They concern the following: Motivating online learning [60]; High school experience of online learning [61]; Students' acceptance towards online learning [62]; Adaptability and high school students' online learning [63]; A literature review on teaching and learning [64]; Online learning and students' mathematics motivation [65]; and Lower secondary school students' barriers to learning [66]. With self-directed learning the one positive variable are the articles concerning Motivating online learning [60], A literature review on teaching and learning [64], and Lower secondary school students' barriers to learning [66]. High school experience of online learning [61], Students' acceptance towards online learning [62], Adaptability and high school students' online learning [63], and Online learning and students' mathematics motivation [65] are the topics of articles that were positive regarding online learning alone. There were no articles that considered only the mental health positive of the three variables.

The paper regarding motivating online learning presupposes that self-directed learning is valuable and that all learning should be evolving in this direction [60]. Self-initiation of learning is not mentioned. Where the article finds challenges with self-directed learning

during COVID-19 is with online learning. Although the authors appreciate the autonomy that comes from online learning, they have a negative assessment of online learning because they consider in-person social engagement as fundamental to positive mental health. Since in-person social engagement cannot be provided with online learning, and this is viewed as a cause of poor mental health, both online learning and mental health are judged as negative during COVID-19. The role of parents was not discussed in this article.

With respect to the literature review on the impact of COVID-19 on teaching and learning, this was the second paper that was positive about self-directed learning but negative concerning both online learning and mental health [64]. The authors assume self-directed learning to be the preferred method of learning. Nevertheless, poor internet connections made online learning a negative experience for students. Yet, it was neither self-directed learning nor online learning that caused the mental health of the students studied to be negative. This was attributed to the rise in domestic violence and child abuse resulting from children being required to remain home during the COVID-19 pandemic. Self-initiated learning was not remarked on in this paper nor were parental concerns regarding standardized learning. The parents in this study were illiterate farmers.

Lower secondary school students' barriers to learning [66] is the final paper positive only in relation to self-directed learning and considered online learning and the mental health of students negative. In this literature review, the authors found self-directed learning directly linked to each student's development, independent work, and students' self-confidence. There was a lack of internet connection and poor infrastructure for students leading to inequities in the use of online learning. The pandemic itself and the lockdowns that followed were considered the cause of poor mental health. These authors do not refer to self-initiated learning. However, they focus on creating self-regulated learning, permitting students to construct knowledge. Although not equivalent to self-initiated learning, it seems these authors were not in support of standardized learning with the self-direction they endorse. The concern of parents in this review was revealed to be identifying their children's emotional and psychological problems related to learning during COVID-19 rather than maintaining standardized learning.

In relation to those papers returned in the Google Scholar search that were positive regarding online learning but negative concerning the other two variables, the first of the three to consider is the one that investigated high school students' experience of online learning during COVID-19 in association with the influence of technology and pedagogy [61]. The authors assumed online learning was a positive development in learning with teacher-directed learning the type of learning appropriate for public school students. They did not support self-directed learning during COVID-19 limitations. It is evident that the view of self-directed learning considered by these authors was not self-initiated learning. The only mention of parents in this article was regarding the need for teachers to call parents. Given the content of this article, it can be assumed that this contact was to determine in what way students were either meeting or falling short of standardized expectations.

An article assessing the impact of COVID-19 on students' acceptance of readiness for online learning [62], with online learning being considered the new norm by these authors, evaluates online learning positively. The purpose of the article is to determine what is holding students back in their ability to accept online learning. In this regard, the need to self-direct learning was seen to be a burden by the students studied because they lacked mental readiness and this negative aspect of their mental health affected their lack of motivation to accept online learning. In this regard, unlike other articles that considered online learning negatively with similar results, these authors saw the problem not with online learning but, rather with poor self-direction and diminished mental health. Yet, without a comment on self-initiated learning, it is unclear what these authors understood in their reference to self-directed learning. There was no mention of parents in this article.

The next article that considered online learning to be positive but self-directed learning and mental health negative in public school students during COVID-19 looked at adapt-

ability and high school students' online learning [63]. As online learning was the only method of learning available during COVID-19 lockdowns, as a result of it continuing student learning, it is considered positive. An article focused on adaptability, both self-directed learning and mental health were negative because students were unable to adapt to either self-directed learning or to the uncertainty of COVID-19, causing their mental health to be negative. What these authors did not compare were the conditions under which self-directed learning was successful regarding online learning and mental health during COVID-19. There are 58 mentions of parents in this article. Most are followed by the phrase "learning support". In the view of these authors, the role of parents in online learning is to maintain standardized expectations of their children during COVID-19.

With most of the parents in the study of online learning and students' mathematics motivation [65] being unable to meet more than the basic daily living needs of their children, concerns regarding maintaining standardization in schooling were not the parents' focus. In these conditions, self-directed learning was found to be a challenge for students. Online learning is judged effective when teachers design appropriate materials for this learning. Teachers were found able to meet this challenge during the pandemic—the reason online learning was judged positive. The learning focus of this article is not self-initiated, and the term is not found in the paper. What is the concern is maintaining standardized learning using online learning—with or without self-direction. The view of one of the students studied is shared: "This new normal setup has destroyed my mental health, and I still have not found a way to help myself".

4.1.4. All Negative

Equaling 12, by far the greatest number of included articles that were returned, as evident from Table 1, were those that found self-directed learning, online learning, and mental health negative for public school students during COVID-19. These publications are on the following topics: learning in isolation [67]; High school student–athlete experiences [68]; Self-directed learning and attitude on online learning [69]; School connectedness still matters [70]; Implementation and challenges of online education [71]; Student evaluations of transitioned–online courses [72]; The impact of learning on science, social, and digital literacy [73]; A comparison of online learning challenges [74]; "Teachers act like we're robots" [75]; Socioeconomic inequality [76]; High school physical education teachers' perceptions [77]; and The home–school linkage [78].

The first article in this regard focused on the isolation students felt during COVID-19. This isolation necessarily produced negative mental health in the view of these authors [67]. Resulting from this perceived negative mental health, students were unable to engage in self-directed learning, and online learning only further increased their isolation. In assuming that working on one's own is equivalent to feeling isolated, these authors could not consider the potential benefits of either self-directed learning or online learning, demonstrating the authors' particular prejudice. Although these authors did report that the students perceived advantages to self-directed learning. Nevertheless, they conclude that self-directed learning is a "plight in solitary learning". These authors did not consider the role of self-initiation in self-directed learning. Parents during COVID-19 are to act as teachers. In other words, they are to continue the standardized expectations of the school.

An article focused on high school student–athlete experiences judges all accommodations made during COVID-19 regarding the physical education program to be negative [68]. The social distancing ban on team sports [79] demanded by COVID-19 limitations caused self-directed online learning to lead to the negative mental health of the students studied. Parents were seen to support the standardized expectations of the in-person athletic program. Those students who did not prefer the regular in-person physical education classes because they had a disinterest in physical contact, team sports, or both were not considered. The mental health of non-athletes has been found positive during COVID-19 in other research [80], although neither self-directed learning nor online learning was considered in this finding.

A paper investigating self-directed learning and attitude to online learning was specifically concerned with both self-directed learning and online learning regarding the mental health of public school students [69]. Although ultimately judging self-directed learning, online learning, and mental health each as negative in public school students during COVID-19, this assessment was balanced regarding the factors involved in both the positive and negative results. For those students who self-initiated their learning, self-directed online learning was positive and correlated with positive mental health. However, most of the students studied did not self-initiate their learning and, as a result, their experiences were entirely negative during COVID-19. The results show that ability in self-directed learning in this regard can predict the student's mental state, having an indirect influence on the effectiveness of online learning. Parents are not mentioned in this article.

An article that proclaims school connectedness still matters [70], as does an article that judged all three variables as negative, begins with a biased point of view that connectedness is best experienced in school. As such, necessarily these authors would conclude that self-directed learning, online learning, and mental health were all negative as a result of the school closures brought on by COVID-19 because the students were not physically in school. This result demonstrates again that all negative results regarding the three variables can arise from the authors' beginning with a particular point that is not directly related to the three variables but, as a result of that point of view, the three variables are necessarily judged as negative. Neither the role of self-initiated learning nor parental concerns are found in this paper.

The article concerned with the implementation and challenges of online education represents a balanced approach to considering online learning [71]. This reported study was conducted on a sample of 28,334 children in China and, unlike the previous Chinese articles mentioned, this article does not consider the move to self-directed online learning to be positive, finding it produced negative mental health in the children. This study supports previous research [33,40] that the primary cause of these negative results was parental expectations of their children's learning during the lockdown. Although balanced in their assessment of the three variables, these authors do not discuss self-initiated learning.

A paper on student evaluations of transitioned-online courses [72] is from the perspective of students in higher education in the U.S.A. and only takes a cursory look at the views of high school students bound for higher education. Consequently, this paper has little to say about high school students' views regarding self-directed learning, online learning, and mental health. What is said is that because of experiencing self-directed online learning during COVID-19, 24% of college-bound students report their college choice has been affected. Given that the concern of this publication is choice in post-secondary education, this provides the reason why each of the three variables would be judged negatively. Neither the role of self-initiated learning nor that of parental concerns is discussed.

The results of a paper on the impact of learning on science regarding social and digital literacy [73] show a relationship between the impact of social distancing regarding COVID-19 and a decline in mental health, leading to a decrease in scientific literacy. The research concludes that, if appropriate supports are introduced and responded to positively and applied optimally, the negative impact of the pandemic regarding online learning can be reduced. In other words, the negative results regarding the three variables were not seen as necessary by these authors. Rather, it was the speed at which the changes took place to self-directed online learning that was considered to have caused these negative consequences. Self-initiated learning was not investigated. This article sees parents as collaborators in student learning, presumably, to ensure the students are working towards standardized expectations.

A comparison of online learning challenges was undertaken for another study with a negative evaluation of self-directed learning, online learning, and the mental health of both adults and public school students during COVID-19 [74]. Online learning is considered an "education revolution". Yet, considering public school students, it is because of insufficient support by parents and teachers stressing standardized expectations that the public school

students' assessment of self-directed online learning was negative, negatively affecting their mental health. Consideration is not given to the importance of self-initiation of learning.

One of the negative articles is named after an assessment of a student interviewed: "Teachers act like we're robots" [75]. The authors found each self-directed learning, online learning, and mental health of public school students to be negative during the pandemic. The authors examined 1930 TikTok videos by students who posted their experiences regarding, among other things, the three variables under consideration. They found that students were overwhelmed and traumatized by the pandemic and that their focus was seeking support, empathy, and authenticity from teachers. For these students, their anxiety related to COVID-19 itself produced negative mental health and affected their perception of self-directed learning and online learning as also negative. Self-initiation of learning was not investigated. These students commented that their parents berated and upset them regarding their poor performance at school, demonstrating the type of effect parental concerns regarding standardized expectations can have on their children.

A paper focusing on socioeconomic inequities during COVID-19 [76] found that students from lower socioeconomic living conditions lacking resilience necessarily had a negative response to self-directed learning and online learning, and had their mental health suffer during COVID-19. Students from other socioeconomic brackets similarly required resilience to overcome problems in these three areas but they were more likely to demonstrate it during the pandemic. With the focus of this paper on these inequities, the role of parents was to try to improve the mental health of their children by listening in a non-judgmental manner. Neither self-initiation nor parental concern with maintaining standardized learning was mentioned in this paper.

Similar to the previously mentioned paper on high school athletes' experiences [68], the paper on high school physical education teachers' perceptions of student learning during COVID-19 [77] was negative with respect to self-directed learning in students, online learning, and student mental health. What differs for these authors is that they assume the mental health of students is poor because it has been reported elsewhere as such. Similarly, as studies of other physical education teachers have reported self-directed online learning to be a barrier, these authors accept it as such. The focus of this paper is blended learning, rather than purely online learning, and whether or not teachers saw it as preferable to online learning was situation specific. These authors clearly were concerned with maintaining standardized expectations for students. Self-initiated learning is not discussed and parents are referred to as the "gatekeepers of learning", required for technological and assignment support to complete homework.

The final paper with all negative assessments of the three variables regarding public schools during COVID-19 concerned the home-school linkage [78]. Self-directed learning is not supported because, in lower grades, students are seen to have low motivation to self-direct and insufficient skills. In upper grades, they are found to be too distracted by their technological devices to self-direct their learning. Online learning is evaluated as ineffective because, in remote and poor areas, students do not have the devices or connectivity to learn online. This problem is further exacerbated if families have only one device and several children who need to share it for their online learning. In this regard, to improve their children's mental health, these authors contend, "parents need to supervise and guide them to study for a longer time" (p. 240). It becomes clear from this solution to negative mental health that these authors consider parents to equate positive mental health with standardized school success. Self-initiation of self-directed learning is not considered.

4.2. Self-Initiated Learning/Parental Concern Regarding Retaining Standardized Learning

As is evident from the discussion of the 30 articles returned in a search of the parameter containing the five keywords, the perception of the authors regarding self-initiated learning and their view on parental concern regarding the maintenance of standardized learning in their children during the COVID-19 lockdowns is dependent on whether they see each of self-directed learning, online learning, and mental health as positive or negative.

Furthermore, each of these depends on whether the authors view standardized learning as necessary to public school learning for all students, or whether those who can self-initiate their learning should be permitted to do so. The answer to these questions is dependent on the view the authors have of parents in supporting standardized learning. From the discussion of each article in the previous subsection, an additional table can now be constructed to refer to the views presented in the publications regarding standardized learning with respect to self-initiated learning and parental concerns (see Table 2).

Table 2. Articles included from a search of "self-directed learning, online learning, mental health, public schools, COVID-19" via Google Scholar, PubMed, Scopus, and Web of Science, plus the returns of ProQuest of "self-directed learning, k-12 online learning, mental health, public schools, COVID-19", listed in order of their return, examined for their view on standardized learning in regards to self-initiated learning and parental concern that standardized learning be maintained or that self-initiation in learning be supported—Yes = ✓, No = ✗, Unknown = ?.

Research Topic on Public Schools Regarding COVID-19	Standardized Learning for All	Self-initiated Learning Okay	Parents Support Standardization	Parents Support Self-Initiation
Impact of information literacy	✓	✗	✓	✗
Motivating online learning	?	?	?	?
Learning in isolation	✓	✗	✓	?
High school student-athlete experiences	✓	✗	✓	✗
High school experience of online learning	✓	✗	✓	?
Self-directed learning on learning outcomes in MOOCs	?	✓	?	?
Students' self-directed learning in English (foreign language)	✗	✓	?	?
Guiding teaching strategies	✓	✗	✓	✗
Students' acceptance towards online learning	?	?	?	?
Self-directed learning and attitude on online learning	✗	✓	?	?
Mental health of high school students	?	?	✓	?
School connectedness still matters	?	?	?	?
Implementation and challenges of online education	?	?	✓	?
Challenges and opportunities in online distance learning	✓	?	✓	?
Student evaluations of transitioned–online courses	?	?	?	?
Adaptability and high school students' online learning	✓	?	✓	?
The impact of learning on science, social and digital literacy	?	?	✓	?
Factors affecting students' happiness on online learning	?	✓	?	?
A comparison of online learning challenges	?	?	✓	?
"Teachers act like we're robots"	?	?	✓	?
A literature review on teaching and learning	?	?	?	?
Socioeconomic inequality	?	?	?	?
The school of the future	?	✓	?	✓
Digital engagement and academic functioning	✗	✓	?	?
Effects of the COVID-19 pandemic on k-12 education	✓	?	✓	?
High school physical education teachers' perceptions	✓	?	✓	?
Online learning and students' mathematics motivation	✓	?	?	?
Challenges to learners in interpreting self as other	✗	✓	✗	✓
Lower secondary school students' barriers to learning	✗	✓	?	?
The home-school linkage	✓	?	✓	?

In regards to Table 2, of the 30 articles that were ultimately included, there were only 8 (26.7%) [48,51–53,56,58,66,69] that examined the role of self-initiation in self-directed

learning. A total of 4 (13.3%) of these articles gave positive assessments to each of self-directed learning, online learning, and mental health [48,51–53]; 2 (7.6%) others [56,58], viewed only self-directed learning and mental health as positive with self-initiated learning. However, of these, 1 (3.3%) paper [56] of those students surveyed predominantly had poor internet connections. As a result, online learning was judged negative. For the second paper (3.3%) [58], the concern was connected learning and, as the in-person connections unavailable during COVID-19 were judged to be required for students' mental health, their mental health was seen as necessarily negative. As self-initiation was viewed as relevant to this supported connection, it was viewed as positive. An additional paper (3.3%) [66] viewed only self-directed learning as a positive during a COVID-19 lockdown as a result of the pandemic producing poor mental health and unstable internet connections that left online learning judged as negative. Self-regulated, creative learning was, however, supported—something assessed in this study as equivalent to support of self-initiated learning. The final (3.3%) paper considering self-initiated learning, in contrast, judged all three variables as negative [69]. Yet, as mentioned in the discussion, this is because the authors of this paper recognized that few of the students affected by the COVID-19 limitations were willing or able to self-initiate their learning. For those who were, these authors—comparable to the authors of [48,51–53] in their discussion of self-initiation in self-directed learning—judged each of self-directed learning, online learning, and mental health of the public school students to be positive during COVID-19.

In only 8 (26.7%) of the papers did their authors provide support for self-initiated learning. Furthermore, these articles favoring self-directed learning also did not agree that standardized learning is for all learners. In total, there were 11 (36.7%) papers that supported standardized learning for all students. However, the issue of whether learning should be self-initiated was not mentioned in 11 (36.7%) of the papers, although merely 5 (16.7%) articles were clearly against self-initiated learning—each of which was definite in considering that standardized learning was for all students. In every case where parents were seen to be supportive of standardized learning the article assumed that standardized learning was for all; however, there were 5 (16.7%) additional papers where it was clear that parents valued standardization yet the message of the authors of these papers was not in itself clear in supporting of standardized learning for all. In total, 15 (50%) of the included articles were definite in parental concern that learning be standardized. In fact, there was only 1 (3.3%) paper in which parents were entirely against the idea of standardized learning for all [53]. This is in contrast to only 2 (7.6%) of the articles mentioning that parents were supportive of self-initiated learning [52,57]. However, in the vast majority of the papers included (25 or 83.3%), the issue of whether student learning should be self-initiated was not even considered from the point of view of parents. There were, however, more parents entirely against self-initiated learning (three or 10%) than for it (two or 7.6%).

That neither self-initiation of self-directed learning nor the role of parents in relaxing their concern that learning continues to maintain standardized expectations during COVID-19 were mentioned in the majority of the reports of those included is troubling in relation to transactional theory and research on emotions and coping concerning psychological stress. It is through self-directed learning that is self-initiated that coping with the online learning required during COVID-19 was successful, as it represented a problem-focused form of coping responsive to contextual factors. Furthermore, without consideration of the relaxation of parents' expectations involving the maintenance of standardized expectations, a form of emotion-focused coping influenced by factors relevant to personal relations was not assessed [35]. In this regard, the influence on students' resulting emotions, coping strategies, and subsequent psychosocial outcomes were not examined by these reports and they are therefore found lacking [36].

4.3. Limitations

The primary limitation of this research is that the returned results depended on the particular day the author searched Google Scholar, as the articles returned might have been

otherwise if the author had chosen another day. In this regard, another limitation is that the search of primary databases took place a month after the search of Google Scholar. During the ensuing time, additional papers might have been published pertaining to the parameter including the five keywords that could not have been returned on the Google Scholar search because of the earlier timing of the search. Given that there were no duplicates in relation to these searches, this is a possibility.

Of the articles included, an additional limitation is that the evaluation of the articles for their authors' points of view regarding self-directed learning (particularly regarding self-initiation of that learning and parental concerns with respect to continuing standardized learning), online learning, and mental health was contingent on the reading done by this author. Although this author undertook the present study with the aim of objectivity, it is possible that the author had a cognitive bias that was unrecognized [81]. This type of cognitive bias was identified by the author as actually affecting the results of 8 (26.7%) of the 30 studies that were included for examination [47,49,51,60,63,67,68,70]. Although various frameworks have been developed to debias research, there remains little research on the efficacy of these models and, as such, how to recognize and reduce cognitive bias is identified as an area in need of additional research [81].

When assessing the role of self-initiation with respect to self-directed learning in relation to online learning and the mental health of public school students during COVID-19, it is a limitation that less than half of the articles returned (13 or 43.3%) in the various searches performed considered self-initiation. As self-initiated self-directed learning has been found to be necessary to result in positive mental health [31,32,39], this lack of considering self-initiated learning is a limitation that calls for further research in this area. Similarly, as a reduction in parental concern with standardized learning has been found to promote positive mental health in students [33,40], it is a limitation that so few of the articles even considered parental support of self-initiated learning (5 or 16.7%) and, of these, merely 2 (7.6%) had parents who agreed that self-directed student online learning should be self-initiated during the COVID-19 lockdown. This lack of research on parental views regarding self-initiated learning in comparison with their support of standardized learning requires further study if additional means are to be provided to enhance students' positive mental health leading to positive psychosocial outcomes.

The final limitation is that, as a scoping review, this author could choose to not conduct the meta-analysis of this review and, as such, not complete a critical appraisal of the individual sources of evidence. This author is not a statistician. Therefore, the statistical analysis that would have provided the meta-analysis is not included. Although it is not a PRISMA requirement of scoping reviews [41], that this author was unable to perform the meta-analysis is a limitation that might be rectified through future research by those researchers so statistically inclined.

5. Conclusions

It has been noted that students' positive psychosocial outcomes are necessary if the mental health crisis in youth is to be alleviated [34], as these outcomes reduce anxiety, increase resilience, improve well-being, and increase positive mental health in children and adolescents [37]. Unlike standardized learning, self-initiated self-directed learning has been identified as providing these positive psychosocial outcomes [31,32,39]. During the COVID-19 pandemic, when public school students were forced to become self-directed online learners, it became evident that the role of self-initiation of self-directed learning (dependent on a reliable internet connection), along with reduced parental concern regarding the maintenance of standardized learning, was paramount if all of the self-directed learning, online learning, and mental health were to be judged positive and that without them, self-directed learning was judged as negative [33,40]. This has become clear from a search of the parameter containing the following keywords: "self-directed learning, online learning (with this narrowed to k-12 online learning for one search), mental health, public schools, COVID-19" that included 30 articles. Of those 30 articles, only 13 (43.3%) men-

tioned self-initiation in self-directed learning, and, of these, just 8 (26.7%) took a positive stand regarding self-initiated learning [48,51–53,56,58,66,69].

Knowing the importance of self-initiation in relation to positive self-directed learning with positive mental health, it became evident during the COVID-19 limitations that public schools have the capability of supporting self-directed online learning apart from in-school learning. Some students did not experience positive self-directed online learning or positive mental health during this period. However, there were others—the self-initiated self-directed online learners—who did experience a positive result with each of their self-directed learning, online learning, and mental health. This improved their psychosocial outcomes, with much of the difference in the level of success as a result of parent expectations of students that were not tied to standardized learning [33,40,53,68]. Furthermore, with the right type of teacher support, students who might not start with an interest in self-directed learning were found able to develop a positive experience with self-directed learning [53,59,73,74]. Consequently, for those self-initiating self-directed online learners, public schools are advised to continue the online learning they permitted these students, rather than demanding such students return to the in-person standardized learning which is acknowledged as unable to produce positive psychosocial outcomes in both the most [3,4] and least achieving students [5]. As well, teachers are advised to continue to encourage students to self-initiate their self-directed learning as this ability was able to be taught during COVID-19. With reliable internet connections, in this way, students who self-initiate self-directed learning may avert the continuing international mental health crisis of public school students.

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