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# Developing self-esteem-based curriculum as a foundation for sustainable education: A systematic literature review and bibliometric analysis

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This study aimed to analyze the thematic structure and trends in scientific publications discussing the relationship between curriculum development and self-esteem and provide a roadmap for future research investigating this topic. This study used systematic literature review (SLR) and bibliometric analysis (BA) to describe self-esteem-based curriculum development and reveal its bibliometric profile. The data were obtained from the 2012–2021 Scopus database by identifying the research on curriculum and self-esteem, so the keywords used are (“curriculum development” or “curriculum”) and (“self-esteem” or “self esteem”). The results show that the publication examining the curriculum and self-esteem leads to stable total publication. Countries contributing to this topic are the United States, the United Kingdom, Australia, India, and South Africa. Meanwhile, the universities mostly credited with high citations on this topic are Monash University, the Ohio State University, and Universidad de Malaga. This study discovers that most of the articles about curriculum and self-esteem discuss health sciences/medicine, psychology, and education. The results indicated that the structure and trends in thematic academic studies provide a roadmap for future studies investigating curriculum development and self-esteem. In this context, educational researchers should interconnect their scientific field with psychology, specifically self-esteem. Therefore, the development of a self-esteem-based curriculum can run well. This article attempted to gain insights into how research on curriculum and self-esteem has progressed using the systematic literature review and bibliometric analysis.

## KEYWORDS

**bibliometrics, curriculum, self-esteem, systematic literature review, sustainable education, SLR**

## Introduction

Self-esteem is a person's thoughts, feelings, and views toward himself (Snyder et al., 2020). Self-esteem is based on how much a person values, approves, and likes themselves. This sense also refers to the self-assessment that a person makes of himself that is based on his relationship with others. Self-esteem is not formed solely from innate factors but is also influenced by the environment or systems outside the self. The contemporary view of seeing self-esteem is contributed by social constructs around the individual (Álvarez and Szücs, 2022). Believing that self-esteem is an important part of the existence of an individual figure in the school, the school must take a role to be able to increase self-esteem in school. One of the efforts that can be done is the development of a curriculum that can support students' self-esteem to increase. A curriculum is a number of stages designed for students with educational institution instructions whose content is in the form of a static or dynamic process and competencies that must be possessed. The curriculum is a tool to achieve educational goals as well as a guide in the implementation of education. This linkage gives rise to the novelty that a bridge is needed to be able to connect the needs of increasing the self-esteem of students in schools through curriculum development (Vreuls et al., 2022).

Self-esteem is crucially implemented in education as it is in medication; low self-esteem can cripple humans. I argued that this distinction is based on philosophical and mythical terms. Several self-esteem theorists, such as Coopersmith (Young, 2000) and Bandura (2010), argue that people with low self-esteem will be easily susceptible to depression and stress, impacting their low quality of life and vice versa. In education, this theory becomes the basis for designing learning activities that can improve self-esteem and create students' positive impacts. Self-esteem has a positive correlation to student learning outcomes, including the process and learning outcomes. High self-esteem has the opportunity for high achievement. Self-esteem can also be increased when students have individual goals toward the target to accomplish (Abouserie, 1995). Cigman argues that self-esteem is essential in education because low self-esteem will cripple students' futures. Self-esteem is a feeling of being respected (in this case, teachers and classmates) and being able to learn in the class connected with a social class situation. Self-esteem can be learned simply; for example, the words "I can" expressed by students can demonstrate high self-esteem. On the contrary, frequently saying "I can't, I'm stupid, I'm not able to," or other negative words will show their low self-esteem. The teacher's responsibility is to help students who mostly do not find high self-esteem in themselves (Cigman, 2004).

There are many teaching technique-related problems to improve self-esteem, but they only focus on learning outcomes, and not on strategies to foster self-esteem through the learning process. If the learning activities are designed more effectively, students will become active and learn happily; consequently, students' self-esteem will grow indirectly (Goodwin, 1999). Teachers' wrong responses while giving feedback to students will impact the students' self-esteem. This condition indicates that the teacher's task is not simple. Each student has different feedback on teachers' teaching models and feedbacks. Significant and constructive feedback will make students have good self-esteem, while destructive feedback will mitigate students' self-esteem (Young, 2000). The research by O'Malley and Bachman (1979) discovered that self-esteem correlates with the educational process

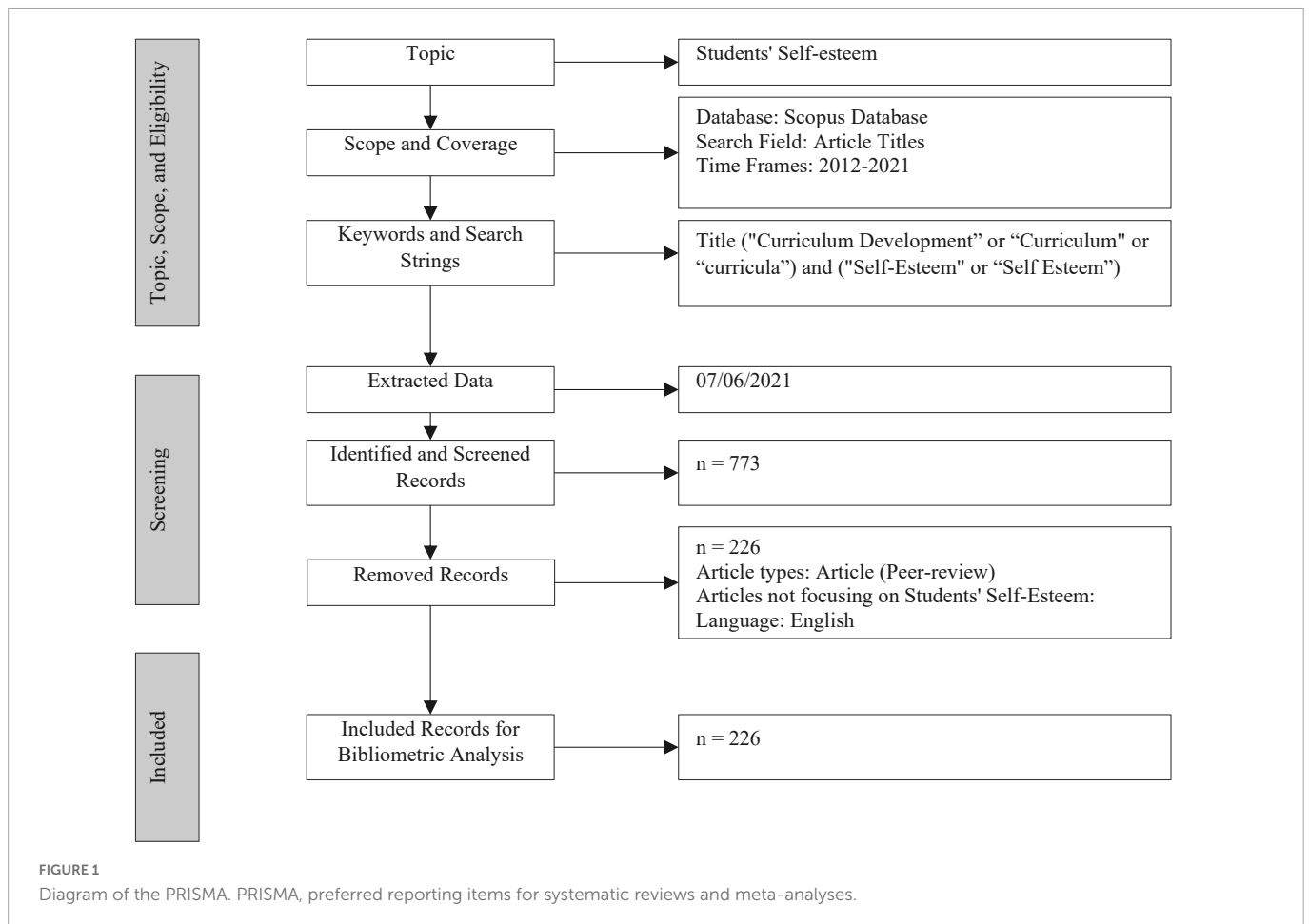
and has no difference between men and women. Thus, self-esteem can be developed through education.

Self-esteem is recognized as a critical component of adopting positive health behaviors. People with low self-esteem have more tendency to keep silent in their community (class) and have a worse relationship with their community or other students. The logical conclusion is that when a school helps students cultivate their self-esteem, they will have strong positive mental health, a better quality of life, and increased achievement. Unfortunately, many activities to improve self-esteem developed by teachers do not focus on underlying factors that impact self-esteem (Branden, 2021). As a result, many non-educational people believe that these programs are ineffective or worse and create arrogant and selfish individuals who consider themselves great and capable, although the objective measurements show the opposite. Thus, the definition of self-esteem is fundamental to determining the most beneficial types of activities to help students.

Before designing a learning process that leads to the formation of self-esteem, teachers should be familiar with some of the things that cause self-esteem to grow with the age of the student. In the learning process, in general, to foster self-esteem in students, teachers can take the following steps: (1) show the process of achieving learning achievement to students; (2) not shying away from expressing responses in the form of praise to students who can do something, and giving encouragement when students fail to do something; (3) help students who experience academic barriers by saying that learning is a process; (4) train students to make positive equalizations about themselves; (5) not providing criticism that could make the student feel silly or humiliated; and (6) teach students to be able to make decisions about something, and follow-up by teaching about recognizing whether their decisions are good or just the opposite (Rahmania, 2007).

Many people accept that self-esteem is defined as a person's feelings toward themselves. This definition is too simple because self-esteem is much more complicated (Goodwin, 1999). Branden mainly defines self-esteem as one's reputation. Although on the surface, this definition seems simple, in fact, it is much more complex. A person's reputation with himself is developed by determining how close one's behavior with the attitudes and values. Furthermore, self-reputation depends on the ability to think and cope with the primary life challenges, consistency with individual values, and ways to enjoy the results of his efforts (Branden, 1995). Therefore, the researchers believe that self-esteem can be developed at schools through a curriculum design, learning, and counseling program. The researchers' curiosity about the role of integrating curriculum with self-esteem at schools triggered them to investigate how to develop a self-esteem development-based curriculum at schools. The initial research process began by searching for books and journals as the theoretical basis for discussing self-esteem development at schools. This research discovered interesting books about basic concepts of self-esteem, such as the works of Mruk (2006) and Plummer (2007).

According to Lawrence, changes in self-image usefully change children's self-concept before entering formal education. A designed and systematic counseling program can particularly increase students' self-esteem. In the case of this research, Lawrence investigated 100 retarded readers and revealed positive results that could improve the readers' ability to read with self-esteem (Lawrence, 1981). The success in learning to improve students' self-esteem depends on how effectively teachers plan and lead



these activities. Adequate planning includes setting specific goals for the self-esteem component and choosing activities that follow the development and goals. Competent leadership and activity facilitation, including briefing and debriefing, allowed teachers to control the aspect of the classroom experience that affects students' self-esteem positively (Halliday, 1999).

From this perspective, the research on curriculum integration based on students' self-esteem has presented important challenges for education to maximize self-esteem development at schools through curriculum development. Such an investigation is considered important to provide a roadmap for future research examining the relationship between curriculum development and students' self-esteem encouragement at school. In addition, some previous studies are conducted employing bibliometric and systematic reviews with the keywords of curriculum development and self-esteem (Martin and Marsh, 2006; Flaherty and Lim Yap, 2017; Bi et al., 2019; Obineli and Ezioko, 2019). However, there has been no specific research on the development of a self-esteem-based curriculum. Therefore, this study presented a thematic structure and publication trends combining systematic review and bibliometric analysis. Therefore, this research investigated Scopus-indexed journals published in the last 10 years (2012–2021), especially the journals investigating the relationship and integration of the curriculum of self-esteem development. The results of these publications were analyzed in detail to discover the structure and trends in thematic academic studies and provide a roadmap for future studies investigating this topic.

From the presented analysis, this study proposed five research questions (RQ):

RQ 1: Can the curriculum be developed to enhance student's self-esteem?

RQ 2: Which country and institution contribute the most to the publication of the curriculum and self-esteem?

RQ 3: Which journal publishes curriculum and self-esteem?

RQ 4: How is the trend of publication themes on curriculum and self-esteem?

RQ 5: Who contributes to the publication of the curriculum and self-esteem?

Systematic literature review and BA have specific characteristics in the metadata analysis used; therefore, this study is interesting because the data set used can provide predictions of publication trends about curriculum development related to self-esteem in the future. SLR with the analysis content, while BA with performance analysis, science mapping, and network analysis (Donthu et al., 2021). The RQ that appeared is based on the concept of developing SLR and BA. RQ 1 aims to analyze curriculum development that can increase self-esteem. RQ 1 was raised because it refers to the analysis content of the SLR characteristics. RQ 2 and 3 aim to map countries, institutions, and journals that contribute to curriculum and self-esteem studies. RQs 2 and 3 refer to analyst performance as a hallmark of BA. RQ 4 aims to map thematic trends of the publication in curriculum and self-esteem by referring to the function of BA as science mapping. RQ 5 aims to look at contributing to the publication of the curriculum and self-esteem that refers to the function of BA as network analysis.

## Methods

### Study design

This study employed an SLR and bibliometric analysis to describe self-esteem-based curriculum development and reveal its bibliometric profile. In some references, it is called systematic literature network analysis (SLNA). Some researchers have used the SLNA several times to reveal the research trends by combining a systematic literature review (Newman and Gough, 2020) and a bibliographic analysis (BA) (Zupic and Čater, 2015). In this context, the SLR guideline employed the PRISMA model guideline (Moher, 2009), which shows the search flow in identification, source filtering, and screening process identification, as presented in Figure 1. The bibliographic analysis was to identify research patterns, trends, and metadata visualization.

### Data search and identification

The data in this study were obtained from the Scopus database accessed on 7 June 2021. The data employed were articles published in the last 10 years (2012–2021) and examining self-esteem-based curriculum development. Meanwhile, the Scopus data included many international scientific journals with a high reputation so that the articles' quality was maintained using the rigorous peer-review process. Consequently, the data employed were valid. Scopus is Elsevier's abstract and citation database launched in 2004 and the most comprehensive academic database globally accepted and used as a publication reference in some countries. This study only employed Scopus-indexed journals. To identify articles that match this study's purposes, the keywords used were curriculum development and self-esteem. The keywords used are ("curriculum development" or "curriculum" or "curricula") and ("self-esteem" or "self esteem"). As a result, the search keywords of this study were limited. To maintain the quality of the data studied in this article, researchers use inclusion and exclusion criteria so that not just any keyword can be used as an analysis in the study (Linnenluecke et al., 2020). These keywords are entered into search engines (scopus.com), choosing topic categories so as not to limit the initial results. Furthermore, many inclusion and exclusion criteria to improve the scientific literature are applied (Table 1). The keywords "curriculum and self-esteem" and "curriculum development and self-esteem" are used because of the keyword linkage of the two keywords. Curriculum development is the process of planning and preparing the curriculum-by-curriculum developers and activities carried out so that the resulting curriculum can become teaching materials and references used to achieve educational goals. From this definition, "curriculum" also contains "curriculum development." In addition, the synonym "curriculum," namely "curricula" is used in keyword searches so that the results obtained are comprehensive.

TABLE 1 Inclusion–exclusion criteria.

Inclusion criteria	Exclusion criteria
<ul style="list-style-type: none"> <li>• Main topics involving curriculum development and self-esteem</li> <li>• Journal article in English</li> </ul>	<ul style="list-style-type: none"> <li>• Not the main theme of the article</li> <li>• Proceedings paper, book review, book chapter, editorial</li> </ul>

After selecting the topic to be studied by determining keywords, the data are exported in CSV form. The data in CSV format are then analyzed with the application VOSviewer and MS Excel. Another analysis employed by this research was content analysis. The findings were then presented in pictures, graphs, and tables. All the data obtained were then exported to Microsoft Excel to arrange, correct, and select. This study created visualization maps using VOSviewer, a content analysis using Scholarcy, the validity of the citation and scores using Publish or Perish software, and charts using the EdrawMax app.

### Data extraction

This study identified the Scopus-indexed publications and journals associated with this research. This study only employed peer-reviewed articles, and thus, it did not include letters, editorials, conference papers, and short communications to examine. The researcher independently determined 226 articles, then selected the top 10 articles by considering the scoring from the Scopus database. They were then employed as materials to analyze using the SLR. Meanwhile, 226 articles were employed to analyze the bibliography. However, the researcher independently reviewed the 10 best publications carefully. Therefore, the articles were reliable as the analysis materials. The data were employed after the researchers reached a consensus over different opinions.

### Statistical analysis

In this study, the 10 best publications discussed self-esteem-based curriculum development addressed in accordance with the topics, journals, institutions, key concepts, analysis, method, and future works. The bibliometric analysis employed the bibliometric theory to analyze the relevant literature using mathematical and statistical approaches to analyze studies on various fields, including education (Budd, 1988; Adams, 2009; Diem and Wolter, 2013; Nylander et al., 2020). This study employed the VOSviewer application version 1.6.16 to analyze the bibliography. VOSviewer is a freely available computer program to build and view bibliometric maps. As opposed to most of the software programs used for bibliometric maps, VOSviewer pays particular attention to a bibliometric map and a graphical representation. VOSviewer features are especially useful in easy-to-interpret large bibliometric maps (van Eck and Waltman, 2010). VOSviewer helps display the metadata visualization of publications, such as the suitability of the bibliography, co-authorship, and co-citation.

## Results and discussion

The effects of social class on self-esteem are mediated mainly by job conditions influencing the efficacy dimension of self-evaluation (Gecas and Seff, 1989). Works, schools, and social classes will directly affect self-esteem; the higher the self-esteem, the higher the chance to continue school and the more influential it will be in the working world, including receiving wages (de Araujo and Lagos, 2013). Grouping inclusive and non-inclusive classes do not affect the enhancement of students' self-esteem in an inclusive class.

Therefore, the roles of parents and teachers are more dominant in the inclusive class to increase students' self-esteem (Daniel and King, 1997). Regular classes can kill students' self-esteem. Research on the achievement gaps among private schools in Indonesia by Muttaqin et al. revealed that education clustering and policy affected self-esteem, including the achievements and equality of education programs. For example, a female student in a single-sex school has better achievements than a student in a mixed-sex school (Muttaqin et al., 2020). This indication shows that the condition of a class environment with a single gender can increase students' self-esteem. As a result, the students have high self-esteem which impacts their achievement.

The findings of analyzing journals on the relationships of self-esteem-based curriculum development were presented in the sub-discussion with the central theme, journal name, country, affiliation, academic thematic trends, method, and future research. The research theme was determined by the research questions explaining essential points of this research's answers with its signs; that is the research objective. Figure 2 shows the research trends of curriculum development and self-esteem in 2012–2021, including the number of publications, citations, and chart of trends.

Figure 2 signifies that the number of publications on curriculum development and self-esteem reached the highest level in 2018 with 36 documents. It is concluded that the average publication each year was 22 documents. The interesting point is that the number of citations has increased consistently since 2012. The most records were in 2013, with 387 citations of 28 articles. The citation trends have begun to stabilize from 2016 to 2021 with seven citations. It is predicted that the number of articles and citations will most likely improve in 2021 since the year has ended up. In other words, our contribution when conducting a study on self-esteem-based curriculum development will be beneficial.

## Can curriculum development improve students' self-esteem?

The self-esteem enhancement program must help students change their perception of themselves and their learning environment, which leads to the improvement of learning outcomes. The self-esteem enhancement program can be included in the available course contents or offered as a separate package; an investigation on this topic is necessary to establish optimal format and contents (Abouserie, 1995). Ferkany explains that self-esteem is important for self-confidence needed by children to engage and succeed in the improvement of learning achievement, especially in specific learning domains. Schools can facilitate self-esteem without hampering other important achievements for educational purposes. With this basis, schools should put self-esteem development a priority in their program (Ferkany, 2008). Self-esteem should not be primarily understood with its achievement but rather with the definition of ownership types. Developing self-esteem at schools refers to an attempt to achieve equality in education (Griffiths, 1993).

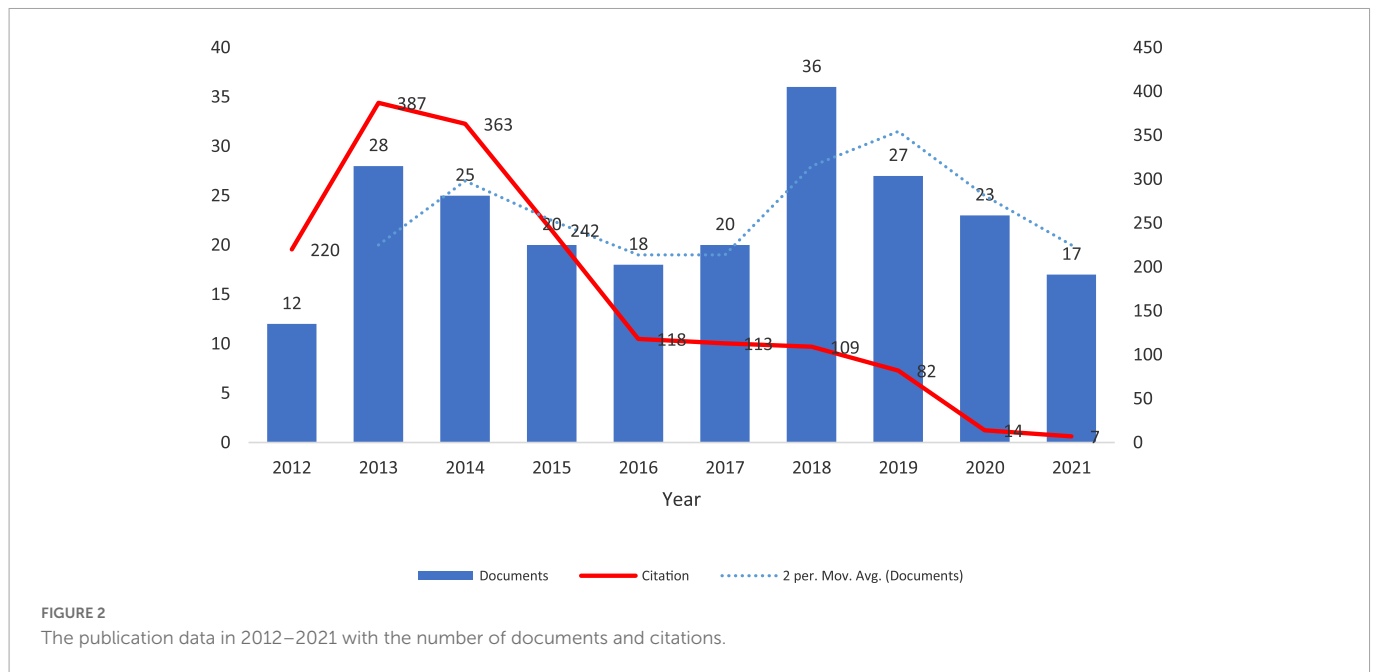
Self-esteem is a popular and important construction in psychology and has been explored widely as an achievement correlation in students. Self-esteem is a hypothetical construction measured as the number of evaluations of all attributes that stand out in a person's self or personality. This is an entirely practical evaluation of a person's values or interests. The relationship between self-esteem

and achievement has become considerable attention for research during the last two decades, although recent research suggests that the empirical supports for the causal relationship between self-esteem and school performance are frequently weak and confusing (Flouri, 2006). Students with high self-esteem usually succeed in an academic environment and can resolve their failures more quickly. Moreover, they focus on the strength of other areas in their life to suppress negative thoughts of failure. On the other hand, students with low self-esteem tend to negatively receive feedback on the failure faced and negatively influence motivation for the following academic tasks.

Students with low self-esteem have a stronger negative reaction to failure and likely generalize academic performance to other life aspects not related to the situation negatively. Individuals with high self-esteem have a clearer perspective on the situation and regard it as a failure not associated with other areas in their lives. Moreover, they focus on their strengths and avoid inconsistency in the self-assessment (Murphy and Roopchand, 2003). Table 1 shows that future research on the article with the impact factor explains the need for curriculum development to design students' high self-esteem at schools. The articles presented in Table 1 signify the state of the art; they are a unique discussion of how to design a curriculum that can develop students' self-esteem. This condition indicates that the absence of the publication explicitly discusses a self-esteem-based curriculum.

Peer counseling support can improve students' self-esteem and support students to make friends, resolve conflicts, and conduct day-to-day accompaniment at school. These activities can also be implemented as character education programs because character education encourages students to help each other, motivate positive behavior, and help students reduce unwanted behavior (Sawyer et al., 1997; Tannir and Al-Hroub, 2008). Another study describes that students with higher levels of self-esteem and more peer support have better academic and social adjustment. Besides, students with more frequently utilized student support services and counseling have higher social adjustment. Finally, students with better adjustment to campus life were more likely to commit to the goals of a college degree and their university (Grant-Vallone et al., 2003). Another case in higher education indicates that if the reason to participate in higher education is career goals, academic stress levels will be the highest. When the reason to participate was for cognitive interests, academic self-concepts were positive; these individuals reported the most satisfaction with college entirely (Michie et al., 2001). Table 2 shows that the 10 best articles on curriculum and self-esteem have different discussion and focus. However, they similarly conclude that intervention in curriculum development that can help students improve their self-esteem at school is necessary. The curriculum development is expected to construct and design learning and school activities comprehensively and systematically; thus, students' self-esteem will increase. This condition can help teachers run the learning process well; as a result, students have high self-esteem at school.

Self-esteem developed in schools includes power, significance, virtue, and competence (Rusuli, 2021). Such power arises through the recognition and appreciation received by the student from others and through the quality of the assessment of his opinions and rights in the school. The effect of such recognition is to cultivate a sense of appreciation for one's views and be able to resist pressure. Significance is aimed at the acceptance, attention, and affection shown by others in the school. The expression of appreciation and interest in a person is included in acceptance and popularity. Virtue is demonstrated by



compliance with the code of ethics, morals, and ethics in schools. Students who adhere to rules, codes of ethics, morals, and ethics then internalize them, showing a positive self-attitude with success at school. Competence shows high performance, with varying levels and tasks for each age group. The importance of spontaneous activity in a child in cultivating feelings of ability and experience in achieving independence can reinforce his values at school.

## The analysis of the most contributive countries and institutions with the highest number of publications on curriculum and self-esteem

The thematic trend developing in the top 10 countries contributing to the curriculum and self-esteem articles was analyzed and presented in detail and separately in [Table 3](#), [Figure 3](#) (countries), and [Figure 4](#) (institutions).

[Table 3](#) shows that many countries are interested in the trends in self-esteem publications. The top 10 countries include the United States ( $n = 70$  with a total citation of 484), the United Kingdom ( $n = 30$  with a total citation of 267), Australia ( $n = 13$  with a total citation of 137), India ( $n = 10$  with a total citation of 35), South Africa ( $n = 10$  with a total citation of 43), Republic of Korea ( $n = 10$  with a total citation of 49), Spain ( $n = 10$  with a total citation of 76), Greece ( $n = 7$  with a total citation of 31), Nigeria ( $n = 7$  with a total citation of 36), and China ( $n = 6$  with a total citation of 27).

Meanwhile, the networks of countries contributing to this research field are presented in [Figure 3](#). There are 31 countries contributing to these networks. Researchers from the United States have 21 networks with cooperation with several countries. The second top country is the United Kingdom, with 17 networks and cooperation with other countries. Researchers from South Africa have eight networks with other countries. Meanwhile, other countries, such as Tanzania, Ireland, Canada, Spain, Pakistan, and China, do not have many emerging networks with other countries.

Recently, researchers from the United States dominate the article citations with 478 citations and 15 networks. This finding shows that the researchers from the US have a significant contribution to the curriculum and self-esteem research. These data conclude that the curriculum and self-esteem research in the United States provide large assistance to the academics of the country and foreign countries. Why did we report this condition? The researcher found an article on the contribution of psychological theories and educational research. Although the article discusses foreign language teaching, its new direction messages regarding the contribution and the interconnection of psychology are fascinating ([Carroll, 1965](#)). We will campaign such messages to address various educational problems. Moreover, a well-designed interconnection of multi-science will produce new directions that can solve educational problems. In this article, new directions tend to recommend the research roadmap that motivates researchers to implement the curriculum and self-esteem. The psychological theory and research in education contribute a more comprehensive insight. These findings suggest that today is a very reasonable time for researchers in education (curriculum) and psychology (self-esteem) to cooperate to advance knowledge.

[Figure 4](#) denotes that 488 affiliations are recorded in the VOSviewer application from the 226 articles found; they have 220 clusters and 475 links. Furthermore, [Figure 5](#) shows that the five most extensive contributor affiliations in this study are the University of St. Thomas Minnesota ( $n = 6$ ), Monash University ( $n = 3$ ), Columbia University ( $n = 3$ ), Michigan State University ( $n = 3$ ), and the Northeast Ohio Medical University ( $n = 2$ ). These findings reinforce that the affiliations in Asia necessarily develop and conduct this research because it is important. The rights of personal choice and self-esteem are bound and inseparable. The high rights of personal choice are generally associated with high self-esteem; on the contrary, agents with low character levels have low self-esteem. People who believe in having weak control lose their confidence to make a rapid decisions even though the decision-making standards are straightforward ([Randle, 2003](#)). The world's prominent universities have investigated this study for the past few years because the self-esteem study is compulsorily revitalized ([Adam, 1978](#)). The

TABLE 2 Ten best articles on curriculum development and self-esteem in 2012–2021.

Rank	References	Cites	Titles	Key concepts	Methods	Scholarly highlights	Future research
1	<a href="#">Shoshani and Steinmetz, 2014</a>	84	Positive Psychology at School: A School-Based Intervention to Promote Adolescents' Mental Health and Well-Being	Self-esteem, Mental health, School	Participants: $n = 1,167$ Location: Center of Israel Instruments: Socio-demographic measure, the brief symptoms inventory, the Rosenberg self-esteem scale, the general self-efficacy scale, the satisfaction with life scale, the life orientation test-revised Types: Quantitative research	The outcomes highlight the potential benefits of incorporating education for well-being in the school curriculum.	Creating education for well-being an integral part of the school curriculum is crucially needed.
2	<a href="#">van Houtte et al., 2012</a>	63	The Self-Esteem of Academic and Vocational Students: Does Within-School Tracking Sharpen the Difference?	Self-esteem, Within-school tracking, Socio-economic status	Participants: $n = 11,872$ Location: Britain and North American Instruments: rosenberg's self-concept scale, socio-economic status, parental supports Types: Quantitative research	Academic students in multilateral schools have slightly higher self-esteem than those in categorial schools.	Students with lower self-esteem in multilingual schools should look into the possible consequences, for example, the relations between academic and vocational students. One must determine what exactly causes the disparities in academic and vocational students in multilateral schools.
3	<a href="#">Del Prato, 2013</a>	61	Students' Voices: The Lived Experience of Faculty Incivility as a Barrier to Professional Formation in Associate Degree Nursing Education	The National League, Professional formation, Nursing education	Participants: $n = 18$ Location: Northeastern U.S. Instruments: In-depth interviews Types: A phenomenological design	Participants' narratives uncovered faculty incivility that interfered with professional identity development by hindering learning, self-esteem, self-efficacy, and confidence.	Since the impacts of faculty incivility on professional formation aspects are devastating, more research is necessary. Studies showed that as stress and student entitlement arose, the uncivil behavior increased but only in chaotic and dysfunctional classroom settings.
4	<a href="#">Santos et al., 2014</a>	40	The Effectiveness of Peer-Based Healthy Living Lesson Plans on Anthropometric Measurements and Physical Activities in Elementary School Students: A Cluster Randomized Trial	Self-esteem, Self-Efficacy, Body image, Elementary school students	Participants: $n = 647$ Location: Manitoba, Canada Instruments: Self-efficacy self-esteem, nutrition knowledge, food and drink, knowledge activities, frequency of food and drink intakes, frequency of food and drink intakes Types: Statistical analysis	The Healthy Buddies lesson plans have the potentials to prevent central weight gain, improve self-efficacy, and enhance healthy living knowledge and behavior among elementary school students when disseminated on a broad scale.	Future studies necessarily determine the importance of improved self-efficacy as a mediating factor for a successful weight change after lifestyle interventions in children.
5	<a href="#">Rickard et al., 2013</a>	34	Orchestrating Life Skills: The Effect of Increased School-Based Music Classes on Children's Social Competence and Self-Esteem	Self-esteem, Music education	Participants: $n = 359$ Location: Victoria, Australia Instruments: Culture-free self-esteem inventory third edition, the social skills rating system Types: Quantitative Research	The results indicated that school-based music classes prevented a decline in global self-esteem measures experienced by the control group. The frequency and quality of arts-based activities could be beneficial for primary school-aged children's self-esteem.	The findings showed that school-based music classes prevented the control group from experiencing a decline in global self-esteem measures in the younger and older cohorts and a decline in general and academic self-esteem in the older cohort. In other words, incorporating this program into the curriculum will result in students with high self-esteem.
6	<a href="#">Ruiz-Aranda et al., 2012</a>	30	Can an Emotional Intelligence Program Improve Adolescents' Psychosocial Adjustment? Results from the Intemo Project	Self-esteem and Educational Curriculum	Participants: $n = 147$ Location: Spanish Instruments: Psychosocial adjustment of Spanish adolescents Types: Quasi-experimental pretest-posttest intervention design	The importance of implementing educational EI programs works explicitly with capacity-based emotional intelligence to perceive, use, understand, and regulate emotions because these programs can enhance different relevant dimensions of adolescents' psychosocial adjustment and well-being.	In the future, it was recommended to take into consideration whether or not the control group received some types of alternative activity related to emotional intelligence to estimate the effects of the program more significantly. Which processes and skills are employed in emotional intelligence training, and which mechanisms can enhance the acquisition of these skills during childhood? These questions mean that curriculum has a significant role in this program

(Continued)

TABLE 2 (Continued)

Rank	References	Cites	Titles	Key concepts	Methods	Scholarly highlights	Future research
7	<a href="#">Cheng and Yang, 2015</a>	25	Multiple Intelligences Theory, Action Research, and Teacher Professional Development: The Irish MI Project	The attitude of health personnel, Self-esteem, Medical education	Participants: 197 gender-related posts on the BBS boards of nine of 11 universities with a medical department in Taiwan Location: Taiwan Instruments: All bulletins board system (BBS) forums run by medical departments Types: Discourse analysis	The paper explored gender dynamics in the context of a hidden curriculum in which heterosexual masculinity and stereotyped sexism were prevalent as norms. Through formal medical classes or informal extracurricular interactive activities, both teachers and students were noted to contribute to the consolidation of such norms.	The paper showed how the activities could be used as starting points to integrate gender into the medical education curriculum from the ground up; thereby, the curriculum assisted education reformers in identifying and resolving such issues.
8	<a href="#">Pym and Kapp, 2013</a>	18	Harnessing Agency: Towards a Learning Model for Undergraduate Students	Academic development model, Self-esteem, Curriculum approach	Participants: n = 31 Location: South Africa Instruments: Semi-structured interviews with the first-year students Types: A description of the institutional context	The model drew an educational theory on identity in the learning environment and responded to specific social conditions in South Africa to address students' academic needs and developing agency. Moreover, the model described the range of interventions put in place specifically to develop a learning culture and promote social connectedness, identity, and agency.	The article describes how the new academic development model has responded to this context by providing a more flexible approach to the curriculum, which attempts to harness students' agency and foster their sense of belonging to a learning community.
9	<a href="#">Cronin et al., 2018</a>	17	An Investigation of the Relationships between the Teaching Climate, Students' Perceived Life Skills Development, and Well-Being within Physical Education	Positive youth development, Personal development, Self-esteem	Participants: n = 294 Location: Britain Instruments: Life skill development within PE (teamwork, goal setting, time management, emotional skills, interpersonal communication, social skills, leadership, problem-solving, and decision-making), psychological well-being (self-esteem, positive affect, and satisfaction with life) Types: Descriptive statistics	Physical education (PE) teachers should create an autonomous-supportive climate to promote students' life skills development and psychological well-being. This situation showed the existence of an opportunity to develop a curriculum; in this case, was PE	Future research should target an even gender split and investigate some of the gender differences highlighted in the supplementary materials. The experimental studies should investigate the causal relationships of the teaching climates, students' life skill development, and psychological well-being.
10	<a href="#">Ihm et al., 2013</a>	14	Who Succeeds at a Dental School? Factors Predicting Students' Academic Performance at a Dental School In Republic of Korea	Dental education, Self-esteem, Dental curriculum	Participants: n = 353 Location: Republic of Korea Instruments: Self-efficacy by Schwarzer and Jerusalem; Self-directed learning by Murray F., Jennifer K., and Grace T.; and Interpersonal communication by Rees C., Sheard C., and Davies S. Types: Descriptive statistics	The main finding showed that the applicants with high scores of internal locus of control and self-efficacy were more likely to become academically successful dental students. Students' lack of achievement could be predicted by monitoring the students' first-year GPA.	The future research investigates how the dentistry curriculum can conduct a positive and effective pedagogy to produce graduates with high self-esteem, self-directed learning, and interpersonal skills.

The article is used as an analysis because it has the highest citation and is in accordance with the main research theme.

previous investigation by several researchers from the world's leading universities necessarily continued to gain novelty in educational science.

Figure 5 signifies that the number of documents is not always associated with many citations due to many factors. Monash University has 69 citations from three documents, the Ohio State



TABLE 3 Rankings of countries with a total number of publications and citations.

Rank	Country	TP	TC
1	The United States	70	484
2	The United Kingdom	30	267
3	Australia	13	137
4	India	10	35
5	South Africa	10	43
6	Republic of Korea	10	49
7	Spain	10	76
8	Greece	7	31
9	Nigeria	7	36
10	China	6	27

TP, total publications; TC, total citations.

University has 35 citations from two documents, and Universidad de Malaga has 31 citations from two documents. The publication trends show how research on scientific disciplines (curriculum and self-esteem) brings an impact on affiliations and indirectly makes these affiliations a center of a scientific discipline.

## A contribution analysis of the journals publishing articles that examine the relationship between curriculum and self-esteem

Another important explanation of this study is international journals publishing curriculum and self-esteem research with their discussion branch. There are 160 journals that publish curriculum and self-esteem research. From these numbers, it can be concluded that curriculum and self-esteem research is interesting when associated with other disciplines and seen from each journal's aims and scopes.

Table 4 signifies that the majority of articles are published in health or medical journals, while some other articles are published in psychological and educational journals. The total number of publications of the Mediterranean Journal of Social Sciences occupying the first rank is five. However, the journal's current status has been discontinued from Scopus since 2018. Meanwhile, the European Journal of Special Needs Education, the International Journal of Environmental Research and Public Health, and Nurse Education Today have a similar total of publications ( $n = 4$ ). Meanwhile, if the number of citations becomes the standard, Nurse Education Today occupies the first rank (TC  $n = 96$ ) and has a highly reputable quality journal (SJR: 1,400 and JIF: 2,490). The second rank is Body Image (TC  $n = 79$ ) which has a highly reputable quality journal (SJR: 1,781 in 2020 and JIF: 3,124). In addition, Table 3 explains that 21 journals have high SJR and JIF reputations. However, three of them have been discontinued from Scopus, and seven journals do not have JIF because it is indexed by the Web of Science-Emerging Sources Citation Index (ESCI). Future research needs to consider a journal that will publish its article on curriculum and self-esteem. However, the significant impacts of academic society and research dissemination can be utilized globally.

## Analysis of thematic trends of publications on the relationship between curriculum and self-esteem

The publication themes are an essential discussion in this study because analyzing thematic trends of publications on curriculum and self-esteem enables researchers to explore research opportunities and novelty to interconnect two different disciplines. The ability to explore the keyword networks will deliver the researchers to gain proper research themes and objects, provide clear novelty, and contribute to the science development. Figure 6 gives an overview of the keywords emerging in this study. The analysis is based on author keywords by considering that the authors used keywords relating to the topic investigated to build their expertise. This analysis discovered that the author's keywords have 75 clusters and 229 networks. Cluster 1 with the red color has six keywords, and the most frequently emerging keywords are domestic violence, educational groups, groups, immigrant Latina women, intervention, and programs curriculum. Cluster 2 with the green color has five keywords, and the most frequently emerging keywords are mental health, physical activity, self-esteem, social support, and stress. Cluster 3 with the blue color has three keywords, and the most frequently emerging keywords are children, prevention, and school.

This analysis employed the minimum number of occurring keywords ( $n = 2$ ). It indicates that the keywords that will be visualized are minimally used two times in an article. The self-esteem keyword has 38 occurrences, while education and curriculum have eight occurrences. Figure 6 denotes that the most frequently used keywords in this data are (1) self-esteem and mental health, (2) self-esteem and physical activity, (3) social support, (4) academic performance in the green cluster, and (5) intervention. The word intervention is frequently used with the words groups, domestic violence, interpersonal, and educational groups in the red cluster. Meanwhile, the word curriculum is the most frequently used with the words motivation, teacher training, and simulation in the gray cluster. The words curriculum development in the gray cluster frequently appears with the words social and emotional learning, critical theory, and self-efficacy. This analysis concludes that integrating self-esteem and curriculum does not have many networks, and it is potentially developed because this study has novelty for educational science. Generally, self-esteem will be associated with other interesting research themes such as self-esteem and the will to win in athletes (Ahmed et al., 2021; Nikander et al., 2022; Noguri et al., 2022), subjective income (Li et al., 2021; Luo et al., 2021; Mahadevan et al., 2021; Wong, 2021), educators (Masoom, 2021; Vašašová et al., 2021), and students (Sultana and Kabir, 2021; Terblanche et al., 2021; van Aalst et al., 2021; Fairlamb, 2022). By elaborating the research theme with the results of the analysis in Figures 6, 7, the development of this study will be more powerful in the future.

Figure 7 shows the analysis of keywords of the curriculum and self-esteem publications. The knot colors represent the average of the keywords, while the knot sizes represent the occurrence frequency of the keywords. The keywords curriculum and self-esteem appeared in 2016 with a light green color. The second combination of keywords uses the brighter yellow color, indicating that the average year of publication approaches the latest years. Popular articles in 2014 discussing body images, eating disorders, and health education are characterized by the blue color. Meanwhile, articles in 2019 focus

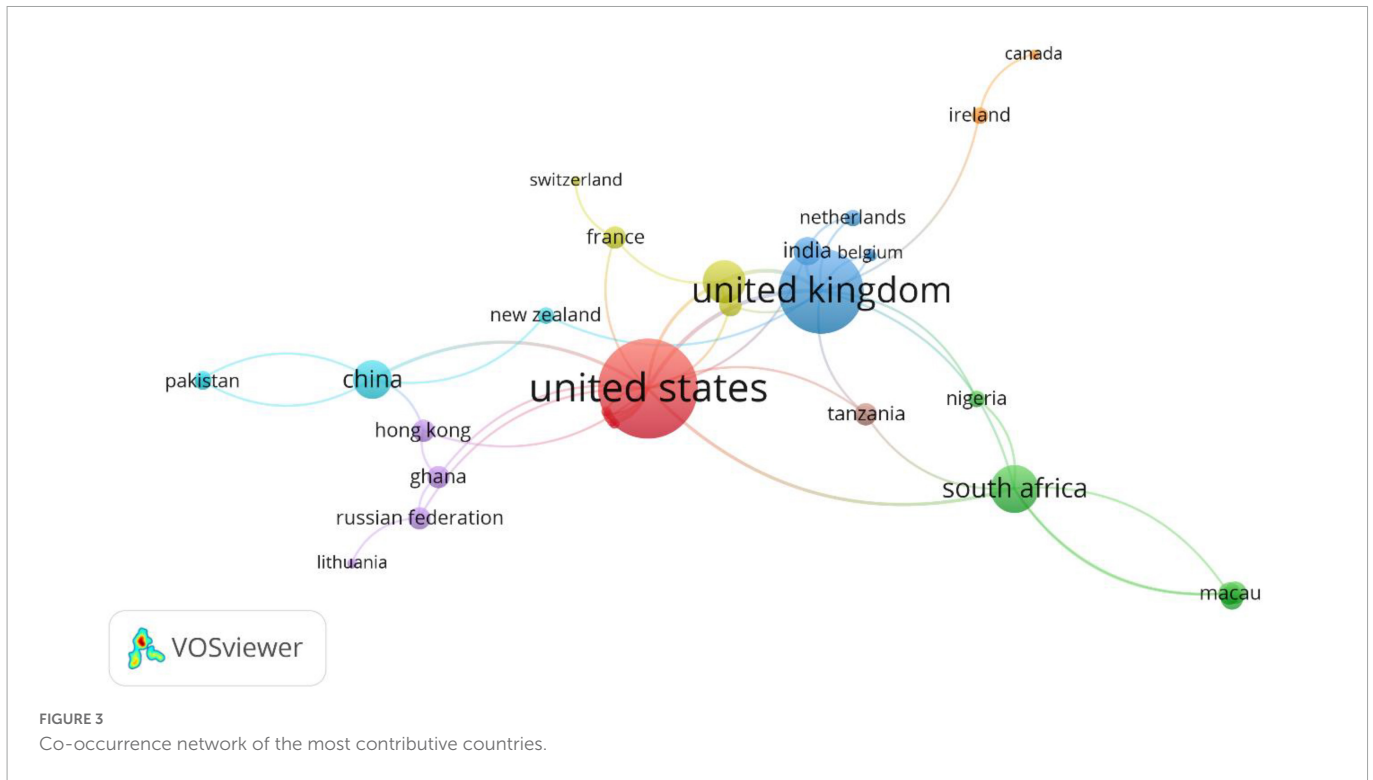


FIGURE 3 Co-occurrence network of the most contributive countries.

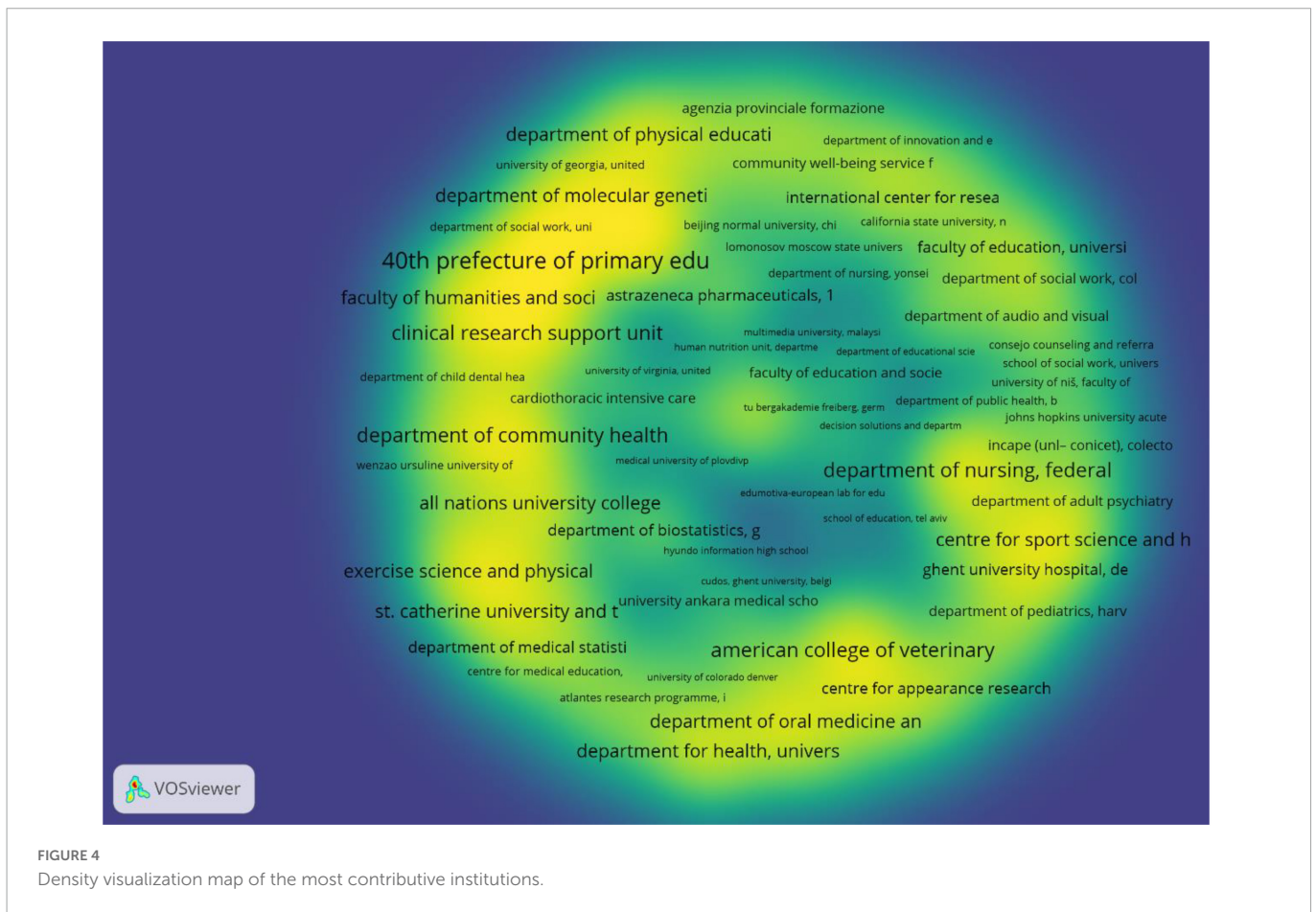


FIGURE 4 Density visualization map of the most contributive institutions.

more on the human experiment, social competence, and physical education. The themes of curriculum and self-esteem became popular in 2016. This phenomenon can become one of the indications that a

study on this topic was popular in that year because the academic needs another discipline, that is psychology, to help education solve students' problems. In conclusion, the temporal visualization of

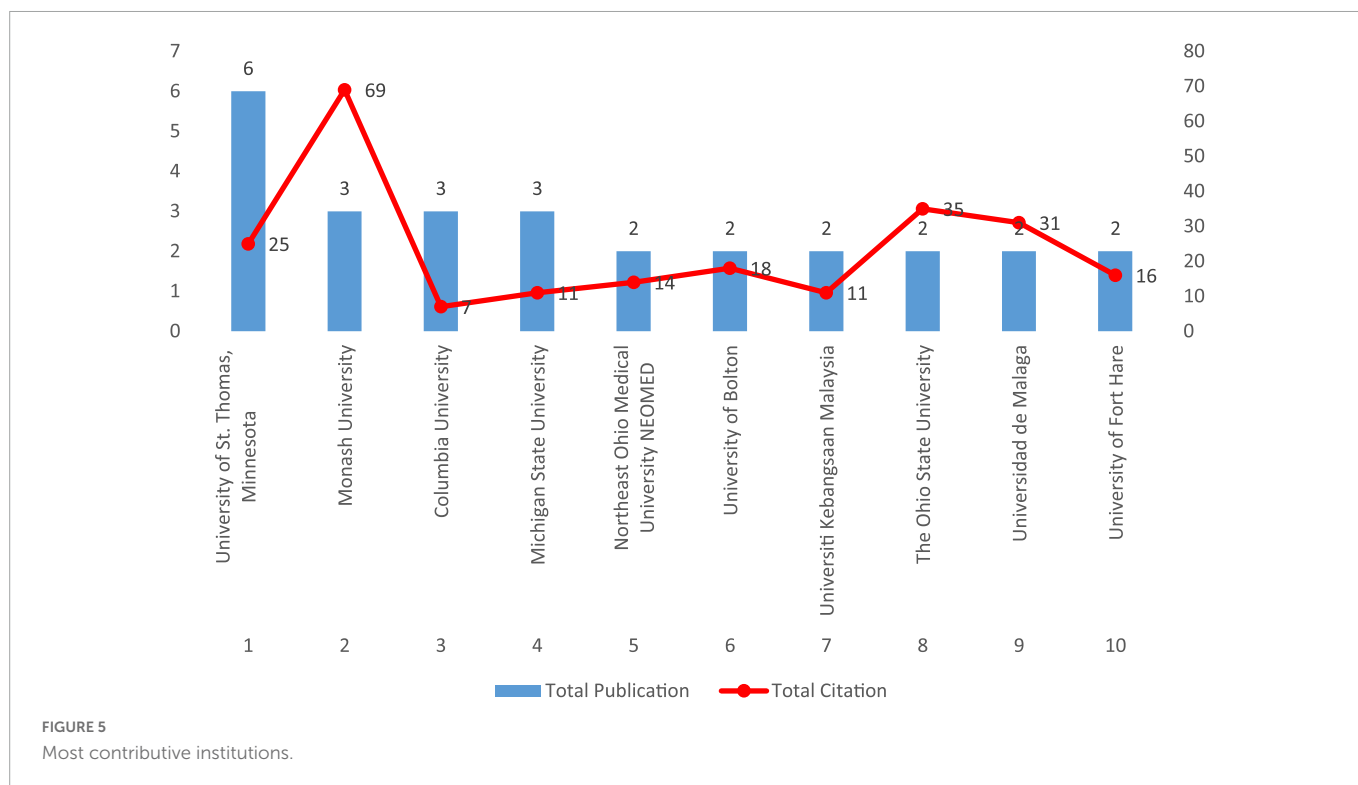


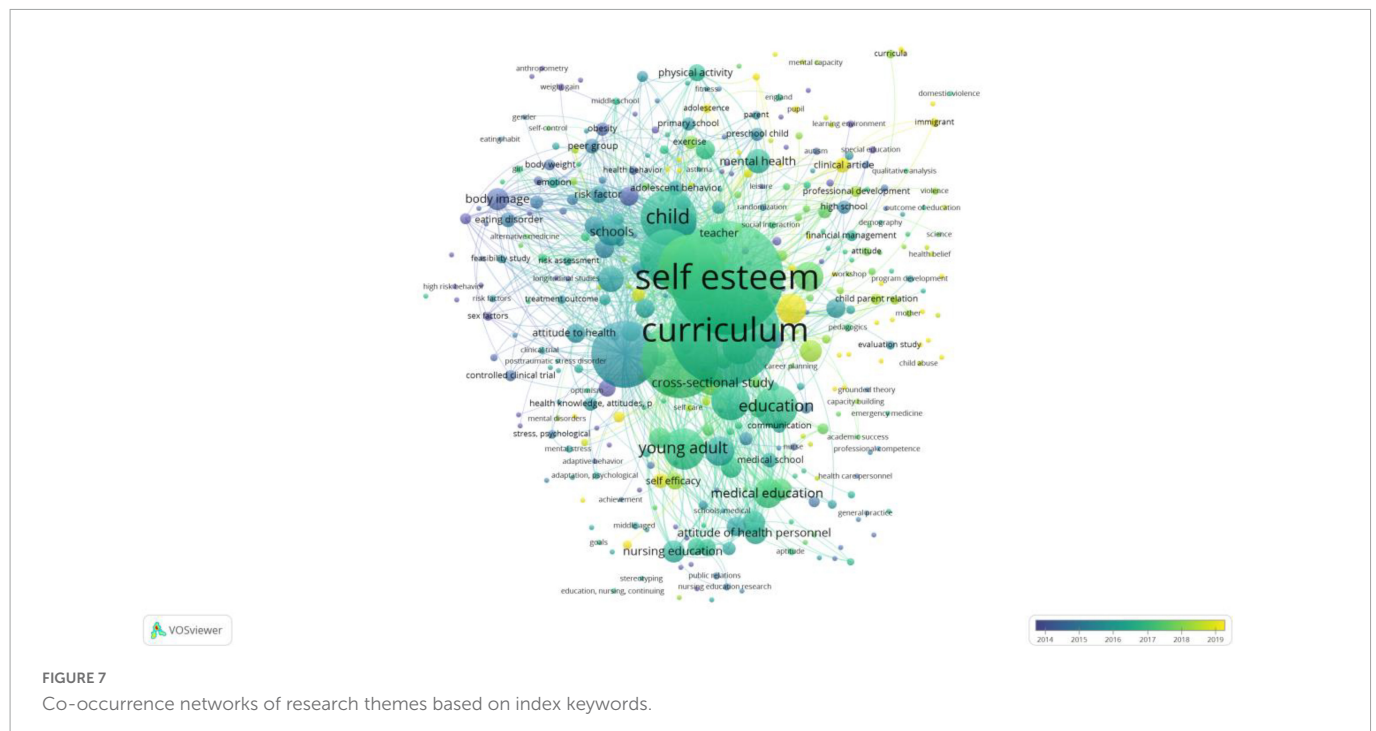
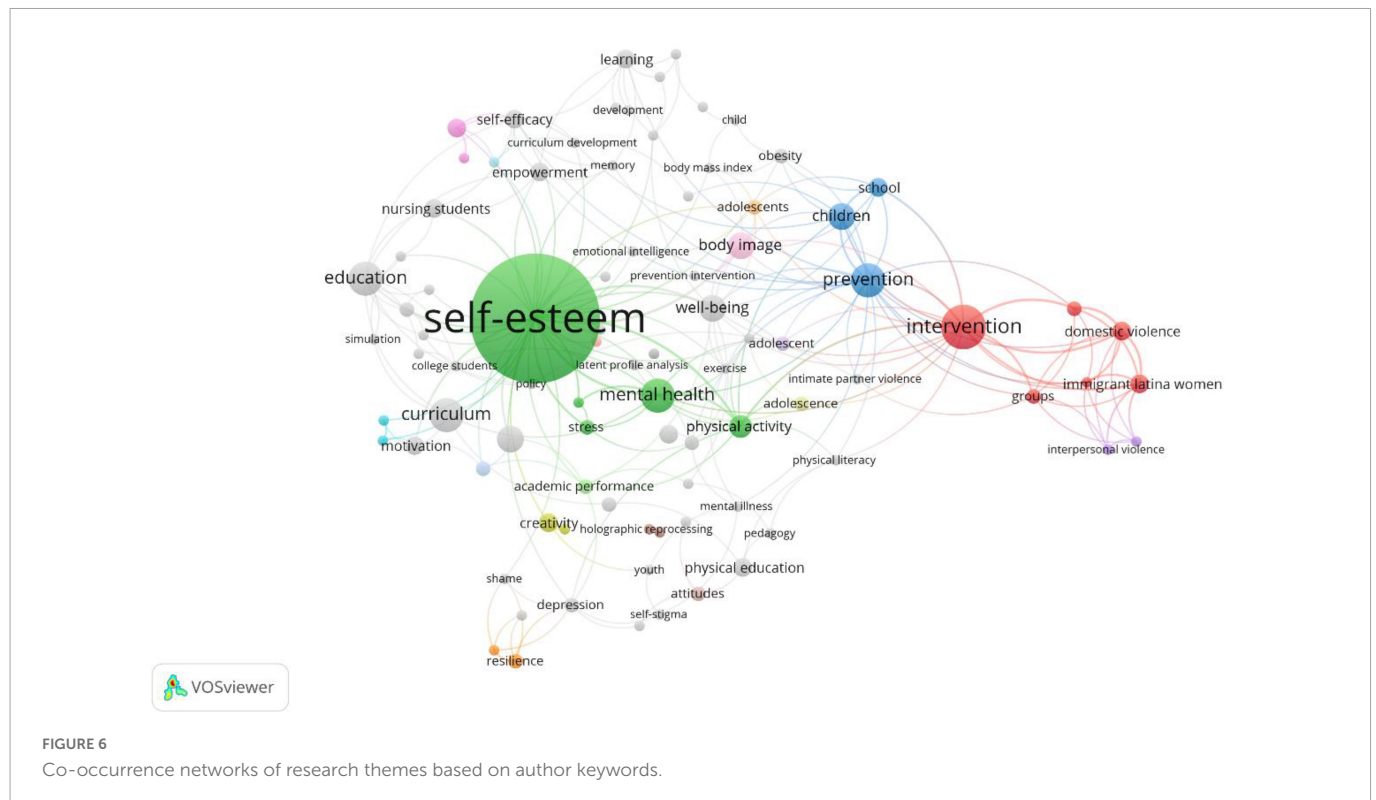
TABLE 4 Distribution of journals that publish articles on curriculum and self-esteem from 2012 to 2021.

Rank	Journals	TP	TC	JIF	SJR
1	Mediterranean Journal of Social Sciences	5	3	N/A	0.135 (2018)
2	European Journal of Special Needs Education	4	40	1.525	0.808 (2020)
3	International Journal of Environmental Research and Public Health	4	2	2.849	0.747 (2020)
4	Nurse Education Today	4	96	2.490	1.400 (2020)
5	BMC Public Health	3	2	3.182	1.230 (2020)
6	Body Image	3	79	3.124	1.781 (2020)
7	Eating Disorders	3	24	2.013	0.847 (2020)
8	International Journal of Music Education	3	70	0.462	0.690 (2020)
9	Social Work with Groups	3	16	N/A	0.306 (2020)
10	Sustainability Switzerland	3	9	2.576	0.612 (2020)
11	Asian Social Science	2	7	N/A	0.124 (2019)
12	Computers and Education	2	26	5.296	3.026 (2020)
13	Currents in Pharmacy Teaching and Learning	2	6	N/A	0.633 (2020)
14	Education 3-13	2	4	N/A	0.395 (2020)
15	International Journal of Innovation Creativity and Change	2	13	N/A	0.225 (2019)
16	Journal of Contemporary Psychotherapy	2	11	N/A	0.391 (2020)
17	Journal of Family Violence	2	4	1.028	0.682 (2020)
18	Journal of Physical Education and Sport	2	21	N/A	0.346 (2020)
19	Journal of School Health	2	32	1.673	0.851 (2020)
20	Journal of the American Pharmacists Association	2	2	2.772	0.653 (2020)
21	Journal of Youth and Adolescence	2	9	3.259	1.883 (2020)

TP, total publications; TC, total citations; JIF, Journal impact factors by the Web of Science; SJR, Scopus Journal Ranking by Scopus.

the keywords reveals that trends of the research development in psychology, health, and education have been observed to increase students' self-esteem at school. Moreover, curriculum development

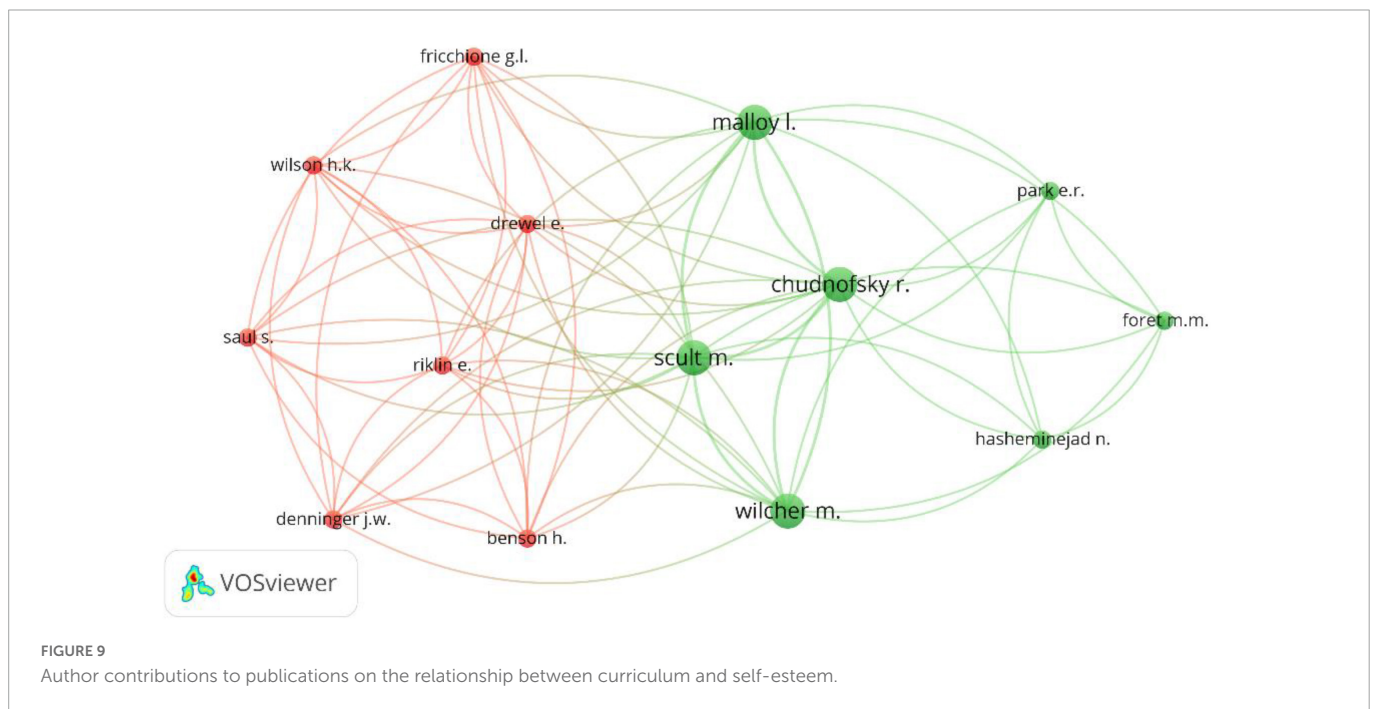
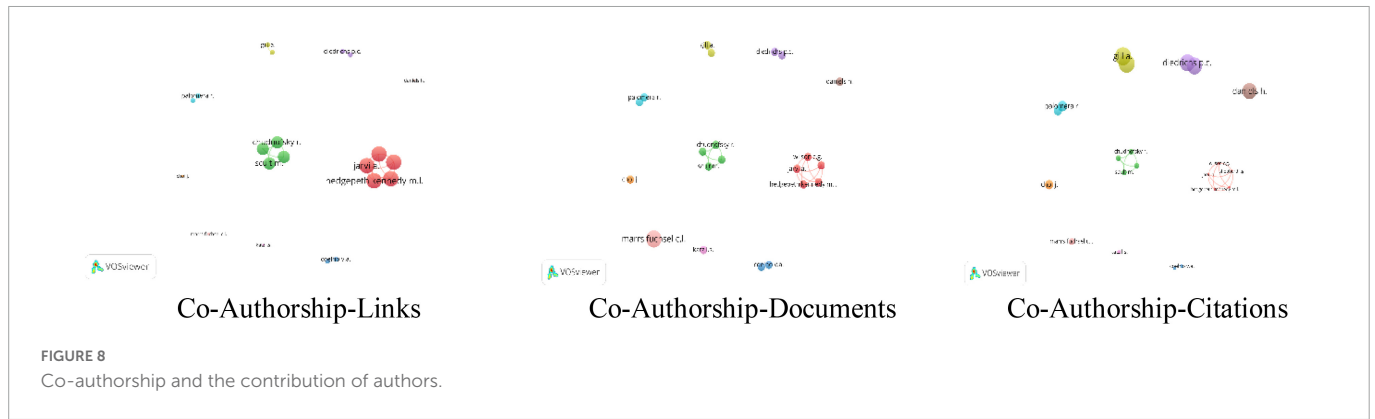
is crucial to create students' learning spirits, achievement motivation, academic success, communication skills, learning achievement, and self-esteem.



## Analysis of the author contributions to publications on the relationship between curriculum and self-esteem

This study investigated authors by employing three analyses: co-authorship-link, co-authorship-document, and co-authorship-citation, as presented in [Figure 8](#). Co-authorship-link has 10 clusters that show the researchers' networks. Five of them are as

follows: Cluster 1: Hedgepeth Kennedy M. L., Hughes P., Jarvi A., Shepherd J. G., and Wilson C. G.; Cluster 2: Chudnofsky R., Malloy L., Scult M., and Wilcher M.; Cluster 3: Coelho V. A. and Sousa V.; Cluster 4: Gill A. and Richard N. S.; and Cluster 5: Diedrichs, P. C. and Halliwell E. The analysis of co-authorship-document shows that Hedgepeth Kennedy M. L. has five documents, while other researchers have two documents. For the analysis of co-authorship-citation, Gill A. and Richard N. S. rank first with 68 citations. Meanwhile, Diedrichs, P. C. and Halliwell E. have 63 citations,



Deniels H. has 58 citations, and Palomera R. and Ruiz-Aranda D. have 39 citations.

The visualization of the association strength analysis shows that the authors contributing to the research on curriculum and self-esteem have 14 items with two clusters, as presented in **Figure 9**. Cluster 1 in red color consists of seven authors: Benson H., Denninger J. W., Drewel E., Fricchione G. L., Riklin E., Saul S., and Wolson H. K. Meanwhile, cluster 2 in green color has seven authors: About R., Foret M. M., Hasheminejad N., Malloy L., Park E. R., Scult M., and Wilcher.

This analysis concludes that the networks of authors who published articles on the curriculum and self-esteem are necessarily strengthened as a form of scientific consequence to build a new paradigm in education, especially to maximize self-esteem with curriculum integration. Curriculum and self-esteem will eventually affect the instructional practices at school to create better practices by developing self-esteem through the curriculum. Research on curriculum and self-esteem is more focused on health science/medicine, psychology, and education. In this context, these educational researchers should interconnect their scientific field with psychology. Therefore, the development of a self-esteem-based curriculum can run well.

## Conclusion

This article presents the systematic literature network analysis on curriculum and self-esteem research. Using the Scopus database, this article provides a roadmap for future research. Although some studies on systematic literature reviews and bibliometric analysis have been conducted, only a few articles on the combination between curriculum and self-esteem are published. The systematic reviews of the 10 best articles show various studies on curriculum development and self-esteem associated with other keywords, diverse approaches, and multiple emphases. However, they have one similar understanding key: integrating and interconnecting scientific discipline, curriculum, and self-esteem to solve students' self-esteem problems at school. The keywords of co-occurrence networks provide helpful insights about the main research themes in curriculum and self-esteem based on keywords. The author-based bibliographic coupling networks visualize knowledge networks in curriculum and self-esteem, have two clusters, and reveal information about the research networks and grouping produced by various authors. This analysis gives us an understanding of changes over time and trends in author-based knowledge networks. This article attempted to

gain insights into how research on curriculum and self-esteem has progressed using bibliographic and structured network analysis.

## Limitations and future research

Although this study revealed significant findings of the roadmap and a new direction in the scientific development of curriculum and self-esteem from the articles published in the Scopus-indexed journals, it still has two major limitations. First, this study only employed the Scopus database; in fact, it can collect data from other databases, such as the Web of Science or ERIC in education. Second, this study only discussed curriculum and self-esteem. Future research is expected to develop and explore the relationship between curriculum development and self-esteem. Therefore, implementing learning and activities covered in the curriculum can be employed to develop students' self-esteem at school.

## Data availability statement

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

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## Author contributions

All authors contributed to conceptualization, formal analysis, methodology, validation, visualization, writing—review and editing, manuscript, and approved the submitted version.

## 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.

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