International Research Hotspots and Trends in the Integration of Positive Psychology and Education-Visualization Mapping Analysis Based on CiteSpace of Literature from 1998-2018

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Abstract

Positive psychology has been in the spotlight since it became an independent discipline in 1998. In its integration with education, extensive research has been conducted in the fields of psychology, education, social sciences, health care sciences and services, business and economics. Through the method of knowledge graph visualization, the international literature on the integration of positive psychology and education is sorted out, which also helps to examine the areas and directions of future development and gives some insights to our researchers. Using the visualization and analysis software CiteSpace.V. 5.1 R8 SE to analyze the 1139 literature on positive psychology and education in the Web of Science database from 1998-2018, future research development can be carried out to conduct cross-disciplinary and cross-cultural cross-sectional research, and to supplement the longitudinal research to deepen the theoretical research and expand the field of application.

Keywords: citespace, positive psychology, education, visualization of research areas

1. Introduction

Positive psychology has sparked extensive discussion and research in the field of psychology in the two decades since it became an independent discipline in 1998. Positive psychology was born in the midst of a serious global mental illness, but its development has not been limited to the field of psychological counseling and treatment, but has expanded to a wide range of fields such as education, management, sociology, sports science, medicine, and health science.

The United Nations has designated March 20 as the International Day of Happiness, and psychology has gradually shifted from focusing on abnormal psychological problems to discussing people's sense of happiness. For Martin E. P. Seligman (2009), the founder of positive psychology, education has positive implications for coping with and preventing depression in adolescents, maintaining life satisfaction, and promoting synergies between learning and positive emotions, and that schools can teach skills for well-being through pedagogical means and classroom interventions that integrate student learning with positive emotions, and this has led to the concept of positive education.

Internationally, the research results of the integration of positive psychology and education include the 213 experimental studies conducted in kindergartens and primary and secondary school students by the CASEL Collaboration in the United States, the National Test in the United Kingdom, the Geelong Grammar School Positive Education Training in Australia, the University of Melbourne's launching of a project on Building Mental Resilience in collaboration with the Victorian government, and the collaborative project between the Ministry of National Education of Bhutan and the University of Pennsylvania, India's projects such as *the Resilience Program for Girls CRPG* and *Girls First*, the Positive Education Project of the Ministry of Education of the State of Jalisco in Mexico, and the Ministry of Education's RCT experiment in Peru, etc. (Global Happiness Council, 2018). All of these have gotten remarkable results and show that the application of positive psychology in education is very meaningful.

So internationally, how has positive psychology been integrated with education in the two decades since its establishment? What other disciplines are involved? What kind of research hotspots and research trends are there? How can we learn from the development of positive psychology in education in China? Understanding the international research trends can better establish the prospects and space for the development of positive psychology in the field of education in China, which is of great significance to the development of various fields as well as the comprehensive development of human beings.

2. Data and Methodology

In this study, the core data collection in the Web of Science (WOS) database was used as the source of literature, and the time-slicing was set to 1998-2018 (the deadline was December 2018), with the default of one year as a time partition, and the topics were "positive psychology" and "education". After excluding irrelevant literature, a total of 1,139 documents were retrieved with the theme.

In this paper, we use Citespace.V. 5.1 R8 SE developed by Prof. Chaomei Chen to visualize and analyze the obtained data, and use bibliometric method to explore the new dynamics and new trends of the development of things under a certain time span, which is scientific, efficient and convenient (Chen et al.,2009). Specifically, this study will analyze the scientific mapping of literature from the following three aspects. First: analysis of the basic overview of the papers; second: analysis of the research hotspots and cutting-edge dynamics of the field; third: analysis of the knowledge base of the field.

3. Results

3.1 Basic Information

According to the statistical data, a total of 1139 pieces of literature on the research of positive psychology and education were collected from 1998 to 2018, which were organized according to the time and found that: the number of articles issued showed an overall upward trend; the number of articles issued in 2006 and 2011 increased suddenly, especially in 2011, the number of articles issued was 86, which was an increase of 34 articles compared with 2010, and then dropped back to 71 articles in 2012; the number of articles issued each year has been more than 100 since 2015, although it is still an upward trend, but the speed has been reduced. Since 2015, the number of articles has been above 100 per year, which is still an upward trend but at a reduced rate.

The analysis of the co-occurrence of subject areas in positive psychology and education can make it easier to understand the disciplines that play an important role in its development, so as to play to its strengths and promote mutual learning and exchange between disciplines. The number of research topics co-occurring with the field of psychology reaches 439 articles, with a centrality of 0.47, indicating that positive psychology and education are still mainly researched in the field of psychology, followed by education and educational research (the number of publications reaches 386, with a centrality of 0.44), and with a centrality of 0.1 or more there are also the social sciences (the number of publications is 116, with a centrality of 0.17). There is also an intersection with health care sciences, business and economics, which somehow represents its potential for interdisciplinary collaborative research, which needs to find a new fit, the right approach and combinable knowledge.

3.2 Research Frontiers

In the Citespace study, keywords were analyzed for research hotspots and Cited Reference were analyzed for research frontiers. Clustering the co-cited literature, the graph includes 424 nodes and 947 connecting lines, and there are multiple prominent nodes in the literature co-citation network, which directly reflects the knowledge base in the field of positive psychology and education research, and the highly cited literature plays the role of a good mediator, which is the key point of the network for the transition from one time period to another. Therefore, analyzing these key points has significant implications for exploring the classic literature in the field of positive psychology and education research.

In terms of co-citations to journals, the top ten ranked journals were selected and are shown in Table 1.In terms of the co-citation of literature to journals, four of the top ten cited nodes are related to intervention and five are related to positive psychology and positive education. Positive psychology is an area of interest because of its focus on both theory building and practice since its creation in 1998, and because of its strong connection to real life and its ability to effectively promote happiness and well-being. There were three documents with a centrality of 0.1 or higher:

The largest node is *Positive education: positive psychology and classroom interventions* (cited 56 times, centrality 0.14). The main point is that positive education is defined as the education of traditional skills and well-being. The high prevalence of depression in adolescents around the world, the small increase in life satisfaction, and the synergy between learning and positive emotions suggest that well-being skills should be taught in schools. There is a wealth of evidence from well controlled studies that show that skills that enhance resilience, positive emotions, engagement and meaning can be taught to school children. We told the story of teaching these skills to an entire school - Geelong Grammar School - in Australia, and we hypothesized that positive education would form the basis of a 'new prosperity', a politics that values wealth and well-being (Martin et al., 2009).

The second most cited document is *Flourish: A Visionary New Understanding of Happiness and Well-Being* (citation 33, centrality 0.14), a book in which the idea of happiness expands on the book Authentic Happiness, in which Seligman specifies concrete ways of constructing happiness. He proposes that the realization of a happy life should have five

elements (PERMA), that is, to have positive emotion (positive emotion), to be engaged (engagement), to have good relationships (relationships), to do things with meaning and purpose (meaning and purpose), to have a sense of accomplishment (accomplishment). PERMA not only helps people laugh more and feel more satisfied and fulfilled, it also leads to better productivity, more health, and a peaceful world(Martin & Seligman, 2009).

Table 1. Information on highly cited literature in the field of positive psychology and educational research

No.	Citation Frequency	Centrality	Literature Type	Author (Year)	Literature
1	56	0.14	paper	SELIGMAN MEP, 2009	Positive education: positive psychology and classroom interventions
2	33	0.14	book	SELIGMAN ME, 2011,	Flourish: A Visionary New Understanding of Happiness and Well-Being.
3	23	0.1	paper	SIN NL, 2009	Enhancing Well-Being and Alleviating Depressive Symptoms With Positive Psychology Interventions: A Practice-Friendly Meta-Analysis
4	23	0.01	book	PETERSON C, 2004	Character strengths and virtues: A handbook and classification (Peterson & Seligman, 2004)
5	20	0.07	paper	SELIGMAN MEP, 2005,	Positive psychology progress: empirical validation of interventions (Seligman et al.,2005)
6	14	0.01	paper	DURLAK JA, 2011,	The Impact of Enhancing Students' Social and Emotional Learning: A Meta-Analysis of School-Based Universal Interventions (Durlak et al.,2011)
7	11	0.04	book	SELIGMAN MEP, 2000	Positive psychology. An introduction (Seligman & CSIKSZENTMIHALYI, 2000)
8	10	0	paper	FREDRICKSON BL, 2005	Positive affect and the complex dynamics of human flourishing (Fredrickson & Losada,2005)
9	10	0	book	HAYES AF, 2013	Introduction to Mediation Moderation and Conditional Process Analysis: A Regression-Based Approach (Hayes, 2013)
10	9	0.01	paper	KRISTJANSSON K, 2012,	Positive Psychology and Positive Education: Old Wine in New Bottles? （Kristjansson, 2012）

The third most frequently cited document was *Enhancing Well-Being and Alleviating Depressive Symptoms with Positive Psychology Interventions: A Practice-Friendly Meta-Analysis* (23 citations, centrality 0.1), which focuses on the question: does making positive psychological interventions - i.e., therapeutic approaches or intentional activities aimed at fostering positive emotions, behaviors, or perceptions - enhance well-being and ameliorate depressive symptoms? A multidimensional analysis of 51 such interventions with a total of 4,266 participants was conducted to address this question and provide practical guidance for clinicians. The results showed that positive psychological interventions did significantly enhance well-being and reduce depressive symptoms. In addition, several factors were found to influence the effectiveness of positive psychological interventions, including depressive status, self-selection, and age of participants, as well as the form and duration of the intervention. Therefore, clinicians should be encouraged to incorporate positive psychology techniques into their clinical work, especially for treating depressed, older or highly motivated patients. Our findings also suggest that clinicians can be well positioned to deliver positive psychology interventions as individual (pair-group) therapy and for relatively long durations (Nancy & Sonja, 2009).

3.3 Research Topic

3.3.1 Frequency and Centrality

Citespace determines the research hotspots through the distribution of keyword word frequencies in the literature, and the succession of research hotspots in different time periods constitutes the research trend in the field (Wang & Li, 2016). Through the Pruning selection Pruning the Merged network, after running the software, the generated co-occurrence map of the keywords with similar or the same significance are merged, and the final keyword co-occurrence network knowledge map is determined. By analyzing the keywords, the literature can reveal the topics and hotspots of the research, and analyzing the hotspots of the research field can enable the researchers to grasp the main research contents and the current status of the research in the field. As shown in Fig. 1, the generated keyword co-occurrence knowledge graph contains a total of 278 nodes and 1517 connecting lines. In the keyword co-occurrence map, the circle represents the keyword node, and the larger the node, the higher the frequency of the keyword. The outermost color of the circle shows the centrality of the keyword, and the darker the color, the higher the centrality of the keyword, i.e., the higher the probability that the keyword co-occurs with other keywords in the literature, and the greater its influence in the co-occurrence network (Kang,2018).
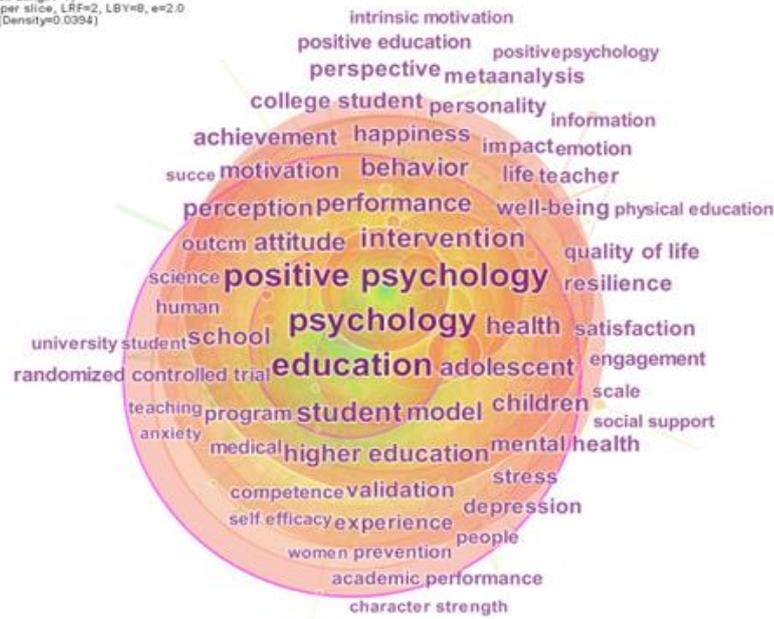
Figure 1. Knowledge map of keyword clustering for research areas in positive psychology and education

By analyzing the keyword knowledge map, it can be seen that the 278 keywords obtained by clustering cover a more concentrated scope, mainly related to psychology and pedagogy-related content. The highest frequency is "education", with a frequency of 232 times, followed by "psychology", with a frequency of 224 times, and then positive psychology, with a frequency of 205 times. The frequency of other keywords is less than 200, which to some extent reflects the more concerned issues and research hotspots in the application of positive psychology in education. As shown in Table 2, it shows the top 20 keywords, which to some extent reflect the current issues and research hotspots that are more concerned when positive psychology is applied in education. In addition to keyword word frequency, keywords with higher centrality can also represent the research hotspots of a certain research field within a certain period of time. The top 20 high-frequency keywords also have higher centrality. However, the centrality of keywords is generally lower, indicating that the research hotspots in each period are more average.

Table 2. Centrality and frequency statistics of high-frequency keywords in the field of positive psychology and educational research

No.	Frequency	Centrality	Year	Keywords
1	232	0.13	1998	education
2	224	0.06	1998	psychology
3	205	0.03	2005	positive psychology
4	105	0.13	1998	student
5	87	0.09	2005	intervention
6	68	0.1	2000	model
7	68	0.05	2000	performance
8	67	0.1	2007	adolescent
9	66	0.11	1999	behavior
10	65	0.07	1999	attitude
11	61	0.03	2006	health
12	58	0.1	1998	children
13	52	0.06	2003	school
14	52	0.01	2009	higher education
15	52	0.12	2000	perception
16	49	0.03	2007	happiness
17	47	0.04	2007	motivation
18	41	0.05	2003	achievement
19	40	0.04	2011	mental health
20	38	0.02	2010	well-being

The analysis of the co-occurrence network of positive psychology and education reveals that the co-occurring words of "positive psychology" are children, behavior, school, achievement, intervention, anxiety, happiness, character strength, and so on. It can be seen that the application of positive psychology in education is more concentrated. The co-occurring keywords of "education" include student, psychology, positive psychology, intervention, model, performance, adolescent, behavior and so on. The newest research hotspots are "decision making" and "hope". These co-occurring words reflect the high degree of focus on positive psychology and education in research, and also indicate that positive psychology and education are complementary to each other.

3.3.2 Emerging Keywords

By analyzing the literature, we get 25 emergent keywords in the field of m-learning, see Figure 2. Through the analysis, we found that the research boom on positive psychology and education can be roughly divided into three periods, the first period is 1998-2008, which is the first decade of the establishment of positive psychology. The background of the establishment of the positive psychology is in response to the fact that psychology has paid too much attention to the mental illness. It was hoped that psychology could shift to focus on positive aspects, and the research hotspots in this period were medicine, education, students, psychology, and the attitudes of health personnel. This also shows that positive psychology has been concerned with the field of education at the beginning of its establishment, and in the exploratory stage, it is still targeted to shift the perspective from the medical field to the field of education, and from focusing on the mentally unhealthy to focusing on the mentally healthy. The second period is 2005-2010, which is a period of expanding the research field. Based on the first period, the research hotspots in this period are schools, medical students, curricula, standards, learning, human beings, prevention, women, men, and college students. It can be seen that the scope of the research object is expanded, and the focus is not only on the solution of mental health problems in the school, but also on the learning and teaching level in the school. Positive psychology is fully integrated with education in this stage and is in a rapid development stage. The third phase is 2011-2018, where the hot topics of research are measurement, life, expectations, experiences, academic achievement, engagements, sports, life satisfaction, and resilience. This period began to explore the role of positive psychology in the field of education from the perspective of the future, looking at learning with positive and expectant attitudes, positive education from the perspective of career planning, linking careers to happiness, and oriented towards a holistic view of well-being for all people(Peter, 2015), which is still being explored in this phase.

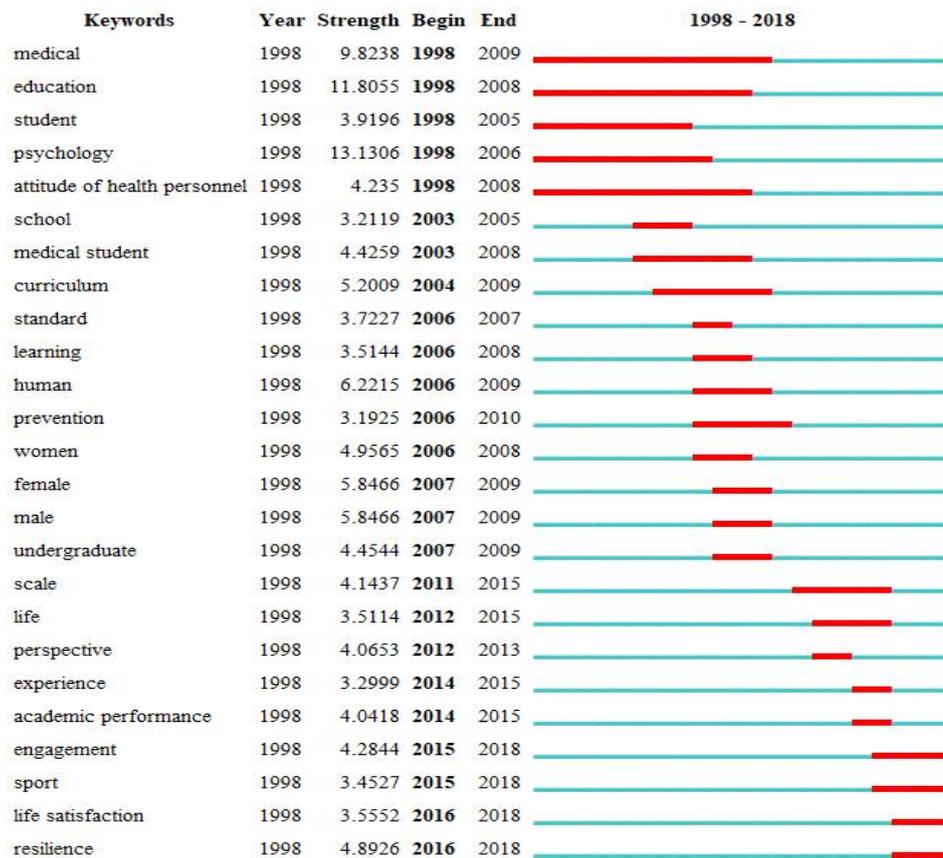| Keywords	Year	Strength	Begin	End	1998 - 2018
medical	1998	9.8238	1998	2009	
education	1998	11.8055	1998	2008	
student	1998	3.9196	1998	2005	
psychology	1998	13.1306	1998	2006	
attitude of health personnel	1998	4.235	1998	2008	
school	1998	3.2119	2003	2005	
medical student	1998	4.4259	2003	2008	
curriculum	1998	5.2009	2004	2009	
standard	1998	3.7227	2006	2007	
learning	1998	3.5144	2006	2008	
human	1998	6.2215	2006	2009	
prevention	1998	3.1925	2006	2010	
women	1998	4.9565	2006	2008	
female	1998	5.8466	2007	2009	
male	1998	5.8466	2007	2009	
undergraduate	1998	4.4544	2007	2009	
scale	1998	4.1437	2011	2015	
life	1998	3.5114	2012	2015	
perspective	1998	4.0653	2012	2013	
experience	1998	3.2999	2014	2015	
academic performance	1998	4.0418	2014	2015	
engagement	1998	4.2844	2015	2018	
sport	1998	3.4527	2015	2018	
life satisfaction	1998	3.5552	2016	2018	
resilience	1998	4.8926	2016	2018	

Figure 2. Keyword map of positive psychology and educational emergence, 1998-2018

3.3.3 Nine Research Themes

In order to explore the research hotspot change, through the Citespace software for clustering, clustering results show that, as in Figure 3, there are nine key research areas, cluster #0 label is human capital, cluster #1 label is medical, cluster #2 label is positive psychology, cluster #3 label is health psychology, cluster #4 label is creativity, cluster #5 label is self-care, cluster #6 is labeled appreciative inquiry, cluster #7 is identity, and the label for cluster #8 is planned behavior.

These nine clusters can be categorized into three main groups, in line with the three pillars of positive psychology proposed by Seligman (2005): the first group focuses on an individual's positive life experience, that is, the use of positive emotions to solve psychological problems, and is a broad theme of positive psychology, which includes: Cluster #0 Human Capital (Specific research hotspots include behavior, smartphones, change, disease, Alzheimer's learning, environment, clinical ones, security, patients), Cluster #1 Medicine (including education, medicine, learning, problem-based, medical psychology, teaching, clinical, training, screening.) and Cluster #3 Health Psychology (including psychology, positive, happiness, influence, online education, pedagogy, teachers, trust, problems); The second category focuses on positive personality traits and addresses virtues and character strengths that humans should have, and this category includes Cluster #2 Positive Psychology (including positive, psychology, diligence, attitudes, micrographic education, medicine, resilience, inner, health.), and Cluster #5 of the labels of self-care (including learning, emotions, difficulties, environment, inclusive living, expectations, scope, mental stylistics, meaningful) and cluster #7's labels of individuality (education, personality, youth, body, identity psychology, students, life, meaning, sustained well-being); and the third category, which focuses on a positive society and uses relevant elements of positive psychology to think about more ambitious societal dimensions, includes Cluster #4 Creativity (including Health, Resources, Analysis, Acceptance, Healthy Families, Parenting, Functioning, Humor, etc.) Cluster #6 labeled Appreciative Inquiry (including students, happiness, mainstream, school-related, special consumption, individuality, values, sustainability, environment) and Cluster #8 labeled Planned Behavior (including education, global, similarity, attraction, assumptions, suicidal teachers, optimism, action, students, expectations, etc.).
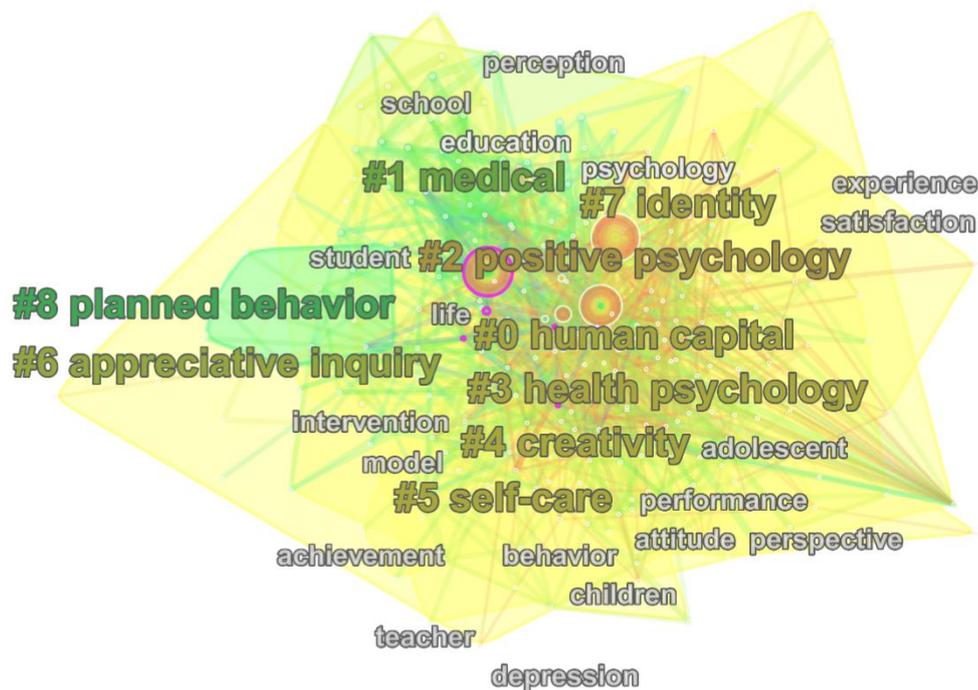

Figure 3. Clustering of keywords for positive psychology and education

4. Conclusion and Discussion

4.1 Conclusions of the Study

Citespace software was used to analyze 1139 documents related to research on positive psychology and education in the WOS database over the past two decades, and visual maps of keyword co-occurrence analysis, author collaboration networks, institutional collaboration networks, country-region collaboration networks, document co-citation, journal co-citation, and domain co-occurrence analysis were generated to analyze the temporal and spatial literature of positive psychology and education. distribution was analyzed and international research hotspots and trends were explored. The study shows that:

First, in terms of research hotspots and frontiers. Education, psychology, positive psychology, students, and interventions have become international research hotspots in the field of combining positive psychology and education. Measurement, life, expectation, experience, academic achievement, engagement, sports, and life satisfaction became the research frontiers.

Second, in terms of research themes, the hotspots of research involve nine themes of the three pillars - human capital, medicine, positive psychology, health psychology, creativity, self-care, appreciative inquiry, personality, and planned behavior. Especially in recent years, with the expansion of the field, the research perspective has gradually expanded from the micro-individual's perspective to the macro-social perspective, and the influence has gradually increased with more in-depth research content.

Third, in terms of the analysis of research authors, institutions, regions, countries and cited literature, the mainstay of research in positive psychology and education is universities, the main research country is the U.S. Highly cited literature is dominated by papers and books on positive psychology, and the co-cited literature is more concentrated, which suggests that there is much room for further expansion as the research in this field has not yet formed a core group of authors.

4.2 Future Trends

Positive psychology has had a close relationship with education since its birth, and after continuous development, it has entered a period of rapid development in the second decade after its birth. Positive psychology has been widely recognized and paid attention to by virtue of solid experimental research, combining theory and practice as much as possible. Currently, the application and development of positive psychology in education is on the rise, with more and more fields joining in, and expanding age groups, shifting perspectives, and technological developments have brought new opportunities for the application of positive psychology in education. Through visualization and analysis, it can help researchers to clarify the international research hotspots and research dynamics of the research on the integration of positive psychology and education, prompting countries to seek research cooperation and build a cross-cultural and interdisciplinary academic community. It also helps to scrutinize the areas and directions of future development and give some insights to researchers in China. Specifically:

First of all, horizontal research, such as comparative research on cross-culture, should be strengthened. In a culturally diverse world, cultural background has become a factor that cannot be ignored. Different cultures create different psychological states, and the character strengths that positive psychology focuses on can also be affected by culture in different ways, and group cultural differences can be explored through many transnational, interdisciplinary, and cross-cultural studies, not only utilizing positive psychology to intervene in the field of education as in the case of existing studies, but also In turn, it is important to examine how education can contribute to the development of positive psychology.

Second, longitudinal studies, such as historical studies, should be strengthened. Positive psychology in the field of education has paid attention to the growth of individuals and human beings in the future development of the road, and some longitudinal studies have been done, but in how to plan life and establish positive goals, it is still necessary to apply more longitudinal studies of positive psychology in education, and from the perspective of history to reflect on what kind of approach is more effective, and how to carry out a reasonable career education for individuals, which is more conducive to the growth of the individual's intellect and the maintenance of positive emotions. retention of positive emotions. How to look at the present from the past, look at the future from the present, and guide the present from the future are all important roles that positive psychology can play in the field of education.

Again, expanding the field of application. Positive psychology in China from 2002 after the introduction of the field of mental health and ideological and political education, focus on the research subjects to college students, the practice of the perspective of classroom learning, group counseling mainly [19]. Although the research started late, the development prospect is good. The combination of positive psychology and education is now the hot spot of research and the trend of future development. Although the development history of positive psychology is only 20 years, but the development is relatively fast, combined with the rising number of publications in the field of education, research in the field of psychology and education also reflects the degree of recognition of positive psychology. Research combining positive psychology and education has been studied within multiple disciplines, including social sciences, health care sciences, clinical psychology, business, and economics, and there is much room for growth.

Positive psychology will continue to play an important role in the field of education in the future development process. The development of positive psychology in China can move toward internationalization, strengthen the cooperative relationship between countries, form a core group of authors and academic communities, and further apply science and technology to innovate research methods. Especially in the context of "Internet Plus", we can utilize big data for horizontal and vertical analysis, strengthen action research, focus on career education, further expand the application

field, cross disciplinary fields, expand the research content, diversify the research groups, further improve the research methodology, and conduct in-depth research in theory and practice. in-depth research, and refinement of research at the practical level.

Competing interests

Not applicable.

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The journal's policies adhere to the Core Practices established by the Committee on Publication Ethics (COPE).

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References

Chen, Y. (2014). *Principles and applications of cite space analysis: A practical guide to CiteSpace.* Science Press.

Durlak, J. A., Weissberg, R. P., Dymnicki, A. B., Taylor, R. D., & Schellinger, K. B. (2011). The impact of enhancing students'social and emotional learning: A meta-analysis of school-based universal interventions. *Child Development, 82*(1), 405-432. https://doi.org/10.1111/j.1467-8624.2010.01564.x

Fredrickson, B. L., & Losada, M. F. (2005). The positive affect and the complex dynamics of human flourishing. *American Psychologist, 60*(7), 678-686. https://doi.org/10.1037/0003-066X.60.7.678

Global Happiness Council (2018). *Global Happiness Policy Report 2018.* New York: Sustainable Development Solutions Network.

Hayes, A. F. (2013). *Introduction to Mediation, Moderation, and Conditional Process Analysis: A Regression-Based Approach.* New York, NY: The Guilford Press.

Kang, H. (2018). The current situation and hotspots of China's higher vocational education research in the past 10 years--an analysis of knowledge mapping based on Citespace. *Exploration of Higher Vocational Education, 17*(6), 22-27.

Kristjánsson, K. (2012). Positive psychology and positive education: Old wine in new bottles? *Educational psychologist, 47*(2), 86-105. https://doi.org/10.1080/00461520.2011.610678

Luo, L. P., & Yu, Z. T. (2007). Analysis of the evolution path of domestic positive psychology research based on

CiteSpace. *Journal of Southwest University for Nationalities (Humanities and Social Sciences Edition),* (2), 214-220. https://doi.org/10.3969/j.issn.1004-3926.2017.02.032

Peterson, C., & Seligman, M. E. P. (2004). *Character strengths and virtues: A handbook and classification.* New York: Oxford University Press.

Robertson, P. (2015). Positive psychology: A movement to reintegrate career counselling within counselling psychology. *Counselling psychology review / the British Psychological Society, 30*(3), 26-35. https://doi.org/10.53841/bpscpr.2015.30.3.26

Seligman, M. E. P. (2011). *Flourish: A visionary new understanding of happiness and well-being.* Simon and Schuster.

Seligman, M. E. P., & Csikszentmihalyi, M. (2014). Positive psychology. an introduction. *American Psychologist, 55*(1), 5-14. https://doi.org/10.1007/978-94-017-9088-8_18

Seligman, M. E. P., Ernst, R. M., Gillham, J., Reivich, K., & Linkins, M. (2009). *Positive education: Positive psychology and classroom interventions. Oxford Review of Education, 35*(3), 293-311. https://doi.org/10.1080/03054980902934563

Seligman, M. E. P., Steen, T. A., Park, N., & Peterson, C. (2005). Positive psychology progress: empirical validation of interventions. *American psychologist, 60*(5), 410-421. https://doi.org/10.1037/0003-066X.60.5.410

Sin, N. L., & Lyubomirsky, S. (2009). Enhancing well-being and alleviating depressive symptoms with positive psychology interventions: A practice-friendly meta-analysis. *Journal of Clinical Psychology, 65*(5), 467-487. https://doi.org/10.1002/jclp.20593

Wang, E. J., & Li, R. M. (2016). Ten years of higher education quality research: research hotspots, trends and frontiers--visualization analysis based on knowledge mapping. *Modern University Education,* (5), 71-79. https://doi.org/10.1111/j.1467-8624.2010.01564.x