

# Positive Psychology in Higher Education: A Bibliometric Analysis

Kai Huang, Xiaoci Yi, Yue Li, Zexu Lin, Anji Ren, Junfei Luo

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# Positive Psychology in Higher Education: A Bibliometric Analysis

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## Abstract

Positive psychology has exerted a significant positive influence on higher education. It is necessary to systematically analyze the research on positive psychology in higher education, in order to better analyze the existing research focus and clarify the future research direction. In this study, a bibliometric analysis by VOSviewers, and R package "bibliometrix", on 234 studies which were finally included from 2015 to 2024. The results show that the literature demonstrates a cumulative upward trajectory. A total of 719 authors have made research contributions to this field. Frontiers in Psychology in a leading position in both the number of articles and citations. The three most productive countries were China (79 articles, 33.8%), the United States (39 articles, 16.7%), and Australia (14 articles, 6.0%). International collaborations remain closely interconnected. 77 keywords are divided into 5 clusters. Positive psychology interventions is currently receiving more attention. College students' well-being, psychological resilience and so on may become a future research trend. This study may be the first bibliometric analysis on positive psychology in higher education and hope to be able to provide directional guidance for the development of future research on positive psychology in this field.

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## Original Manuscript

# Positive Psychology in Higher Education: A Bibliometric Analysis

## Abstract

Positive psychology has exerted a significant positive influence on higher education. It is necessary to systematically analyze the research on positive psychology in higher education, in order to better analyze the existing research focus and clarify the future research direction. In this study, a bibliometric analysis by VOSviewers, and R package "bibliometrix", on 234 studies which were finally included from 2015 to 2024. The results show that the literature demonstrates a cumulative upward trajectory. A total of 719 authors have made research contributions to this field. *Frontiers in Psychology* in a leading position in both the number of articles and citations. The three most productive countries were China (79 articles, 33.8%), the United States (39 articles, 16.7%), and Australia (14 articles, 6.0%). International collaborations remain closely interconnected. 77 keywords are divided into 5 clusters. Positive psychology interventions is currently receiving more attention. College students' well-being, psychological resilience and so on may become a future research trend. This study may be the first bibliometric analysis on positive psychology in higher education and hope to be able to provide directional guidance for the development of future research on positive psychology in this field.

## Keywords

Positive Psychology · Positive Psychology Interventions · Higher Education · Bibliometric

## 1. Introduction

Positive psychology refers to the application of psychological ideas, research, and intervention strategies to understand the favorable, adaptive, imaginative, and emotionally satisfying elements in human behavior (Seligman ME et al., 2000)<sup>19</sup>. Current research on positive psychology in the university student domain primarily focuses on analyzing correlations between positive psychology curricula and academic/mental health outcomes, as well as validating intervention strategy effectiveness (Hobbs C et al., 2022; Phan K et al., 2025; Kaiser V et al., 2025)<sup>6,15 8</sup> For instance,

empirical investigations by Hobbs C et al.<sup>6</sup> (2022), Young T et al.<sup>27</sup> (2022), and Carr A et al.<sup>1</sup> (2021) have demonstrated that positive psychology interventions significantly improve mental health status and Improve the Well-being of University Students. Concurrently, studies by Tejada-Gallardo C et al. and Waters L et al. substantiate that positive psychology effectively enhances students' psychological well-being, Intrinsic Motivational Factors in Learning, and academic performance<sup>7</sup><sup>22</sup>(Tejada-Gallardo C et al., 2020; Jie Z, 2022). Positive psychology has exerted a significant positive influence on higher education; however, current research on positive psychology in higher education remains challenged by ill-defined research priorities and unelucidated developmental trajectories. It is imperative to conduct a periodic review of positive psychology research in education, systematically analyze existing research content, and quantitatively examine its current status, aiming to enhance research quality and clarify future research directions.

Bibliometric analysis, as a method for mapping established publication records, has become one of the most significant approaches for assessing and predicting research trends in specific topics(Zhao L et al., 2018;Rejeb A et al., 2021)<sup>17,29</sup>. This methodological approach elucidates disciplinary knowledge evolution patterns through big data mining, with core analytical techniques encompassing co-occurrence analysis, cluster mapping, and burst detection(Zupic I et al., 2015)<sup>30</sup>. Bibliometrics has been extensively applied in positive psychology and education domains. For instance, Zhang et al.<sup>28</sup>(2024) conducted a comprehensive bibliometric review of flipped classroom education, while Khademi et al.<sup>9</sup>(2020 ) employed bibliometric methods to trace the historical roots of positive psychology Through bibliometric analysis, the current status and trends of positive psychology research in the university student domain can be systematically evaluated(Wang F et al., 2023)<sup>24</sup>.

This study employs bibliometric methodology to investigate positive psychology within collegiate education, systematically analyzing publication patterns along with researcher contributions and institutional collaborations in this domain. The findings enable both expert and novice researchers to delineate the current scope of positive psychology applications in student-centered education, identify underdeveloped research frontiers, and formulate strategic roadmaps for future scholarly inquiries.

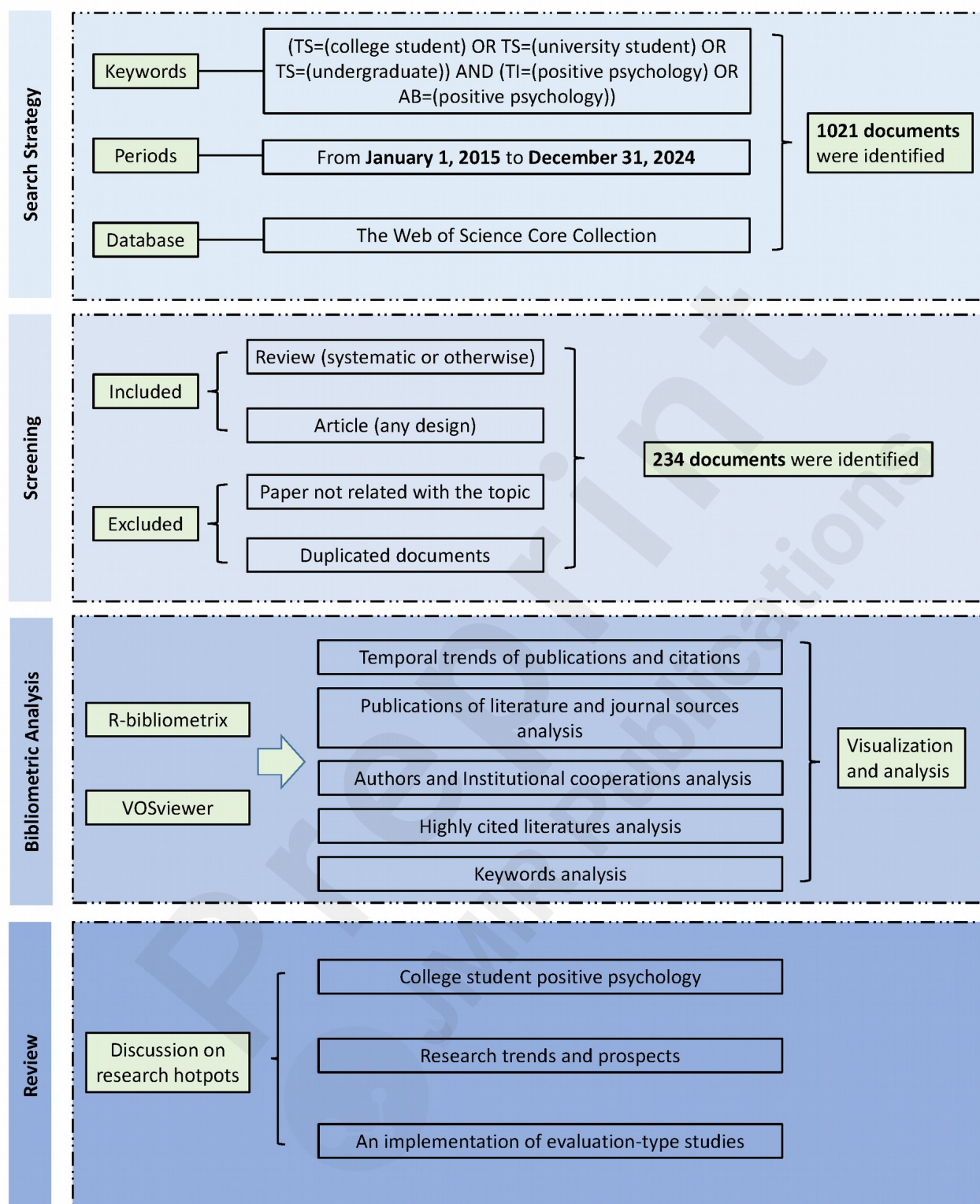
## 2. Methods

### 2.1 Search strategy

The literature data was sourced from the Web of Science Core Collection [WoSCC] database, with the retrieval period ranging from January 1, 2015 to December 31, 2024. On January 26, 2025. The search strategy was developed as follows: (TS=(college student) OR TS=(university student) OR TS=(undergraduate)) AND (TI=(positive psychology) OR AB=(positive psychology)). All publications included were either a review (systematic or otherwise) or article (any design) published between January 1, 2015 to December 31, 2024. The study only restricts the language to English. We retrieved 1,021 documents from the literature search. After manual screenings, duplicated documents and paper not related with the topic were excluded. Finally, we selected 234 documents for bibliometric analysis. The workflow diagram is illustrated in Fig. 1.

## 2.2. Data analysis

Bibliometrix of R (version 4.4.2) and VOSviewer (version 1.6.20) were used to analyse the document types, years, authors, countries, institutions, journal sources, keywords and references to form social network maps. Data aggregation and analysis were conducted in Endnote20, and related figures were drawn with R and Scimago Graphica. The main method used for the analysis of co-occurrence is social network analysis (SNA). In bibliometrics, this method can reflect the research hotspot and trends of Positive Psychology for College Students and has the function of multidimensional information display. Furthermore, we performed cluster analysis using VOSviewer to generate social network maps. Social network maps indicate importance with the size of a node and the thickness of a line.

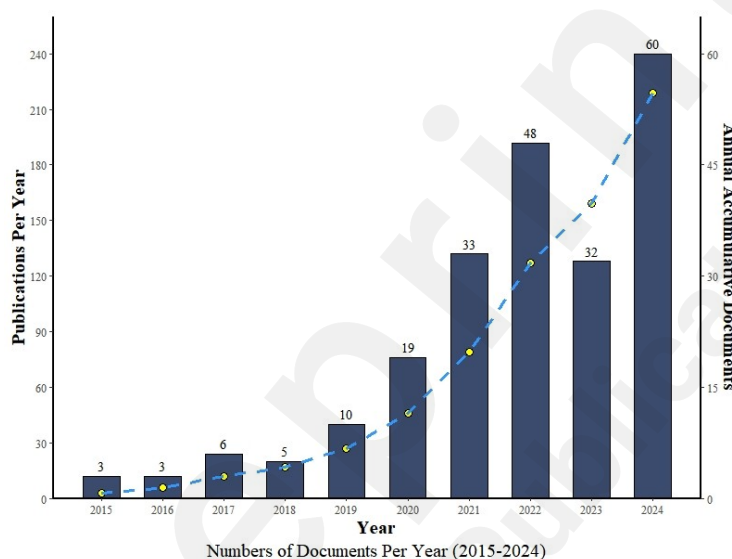


**Fig. 1** Literature data screening process and data analysis strategies. The search strategy is shown in Appendix A.

## 3. Results

### 3.1 Bibliometric data of Annual Publications

A total of 1,021 articles were initially identified through database searches, and 234 studies were ultimately retained following manual screening. The literature in this field demonstrates a cumulative upward trajectory. From 2015 to 2018, annual publications in this field did not exceed 6 articles. A rapid increase in output was observed after 2019, with a pronounced acceleration in publication frequency from 2015 to 2024. Notably, studies published after 2021 accounted for over 80% of all included research. The year 2024 marked the highest output, with 60 articles published (Fig.2)



**Fig. 2** Overall situation of the documents. The left axis indicates the annual number of publications, while the right axis represents the cumulative total number of publications up to the current year.

### 3.2 Author Contributions, Journal Contributions and Citations

#### 3.2.1 Author Contributions

The study encompassed contributions from 719 authors. The United Kingdom contributed the highest number of authors (n=4) among the top 10 most prolific researchers, followed by China and Australia (n=2 each), with single representatives from the United States and New Zealand. The top five authors each published three publications. In the analysis of citation metrics, six of the top 10 most cited authors were affiliated with the United States, three with China, and one with the United Kingdom. Local citation analysis identified Jean-Marc Dewaele as the most cited author (16 citations), with Xinjie Chen, Johanna Lake, and Amado M. Padilla jointly ranking second (14 citations each). (Table 1)

The top 10 authors exhibited identical h-index values of 2.0, with m-index scores predominantly

ranging from 0.2 to 0.4 and g-index values between 2.00 and 3.00. Based on combined metrics, Catherine E. Hobbs and Bruce Hood shared the top rank (Fig.3a). Both authors commenced publishing in this field in 2022 (Fig.3b).

Table 1. The top 10 authors and local citations authors.

| Rank | Author               | Country        | Articles | Fractionalized | Author             | Country        | Local citations |
|------|----------------------|----------------|----------|----------------|--------------------|----------------|-----------------|
| 1    | HOBBS, CATHERINE     | United Kingdom | 3        | 0.75           | DEWAELE, JEAN-MARC | United Kingdom | 16              |
| 2    | HOOD, BRUCE          | United Kingdom | 3        | 0.75           | CHEN, XINJIE       | China          | 14              |
| 3    | JAMES, TRIXIE        | Australia      | 3        | 1.2            | LAKE, J.           | America        | 14              |
| 4    | JELBERT, SARAH       | United Kingdom | 3        | 0.75           | PADILLA, AMADO M.  | America        | 14              |
| 5    | VELA, JAVIER CAVAZOS | America        | 3        | 0.78           | ERICKSON, KELLY    | America        | 11              |
| 6    | BARTOS, L. JAVIER    | New Zealand    | 2        | 0.42           | GUZMAN, ANNE       | America        | 11              |
| 7    | CHAN, FONG           | China          | 2        | 0.31           | FORD, C. GRAHAM    | America        | 9               |
| 8    | CHEN, XINJIE         | China          | 2        | 0.58           | LI, CHENGCHEN      | China          | 9               |
| 9    | COLLA, RACHEL        | Australia      | 2        | 0.50           | SMITH, BRUCE W.    | America        | 9               |
| 10   | DEWAELE, JEAN-MARC   | United Kingdom | 2        | 0.58           | HUANG, JIAN        | China          | 7               |

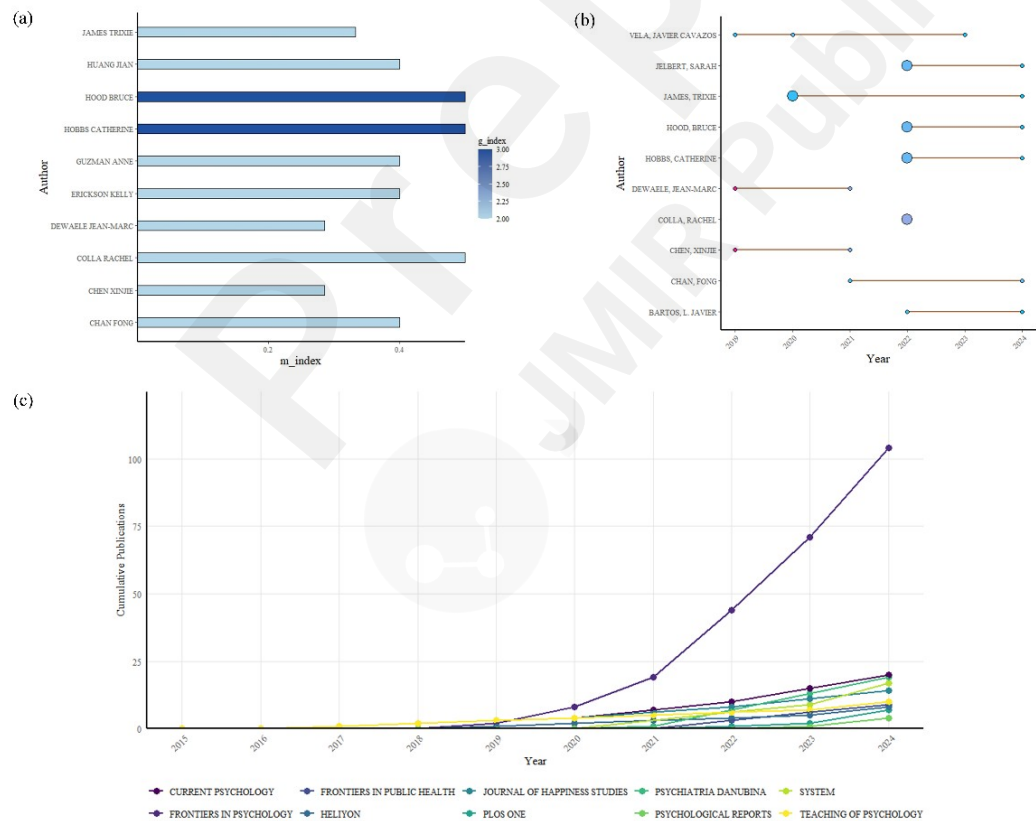


Fig. 3 Status of publications by author and journal. (a) The relationships between the top 10 productive authors' g\_index and m\_index. (b) The top 10 authors' production over time. (c) Top 10 journals with the most published articles.

### 3.2.2 Journal Contributions

The top 10 journals were selected based on publication volume. Among the most prolific journals, four were affiliated with the United States, two each with the United Kingdom and Switzerland. The top three journals by publication count were *Frontiers in Psychology* (33 articles, 14.1%), *System* (8 articles, 3.4%), and *Psychiatria Danubina* (6 articles, 2.6%). *System* exhibited the highest impact factor (IF: 4.9), followed by *Heliyon* (IF: 3.4). (Table 2)

Among the top 10 most cited journals, three were affiliated with the United Kingdom, three with the United States, and two with Switzerland. The leading journals by citation count were *Frontiers in Psychology* (337 citations), *Journal of Personality and Social Psychology* (243 citations), and *American Psychologist* (223 citations). Notably, *American Psychologist* demonstrated the highest impact factor, exceeding 10 (IF 2023: 12.4) (Table 2).

**Table 2.** The top 10 journals and local cited journals.

| Rank | Sources                      | Articles | Country     | IF(2023)    | Local Cited Sources  | Articles | Country     | IF(2023)    |
|------|------------------------------|----------|-------------|-------------|----------------------|----------|-------------|-------------|
| 1    | FRONTIERS IN PSYCHOLOGY      | 33       | Switzerland | 2.6         | FRONT PSYCHOL        | 337      | Switzerland | 2.6         |
| 2    | SYSTEM                       | 8        | England     | 4.9         | J PERS SOC PSYCHOL   | 243      | USA         | 6.4         |
| 3    | PSYCHIATRIA DANUBINA         | 6        | Croatia     | 2.696(2021) | AM PSYCHOL           | 223      | USA         | 12.4        |
| 4    | CURRENT PSYCHOLOGY           | 5        | USA         | 2.5         | J POSIT PSYCHOL      | 189      | England     | 3.4         |
| 5    | PLOS ONE                     | 5        | USA         | 2.9         | J HAPPINESS STUD     | 180      | Netherlands | 3.1         |
| 6    | FRONTIERS IN PUBLIC HEALTH   | 3        | Switzerland | 3.0         | PERS INDIV DIFFER    | 150      | England     | 3.5         |
| 7    | HELIYON                      | 3        | England     | 3.4         | SYSTEM               | 148      | England     | 4.9         |
| 8    | JOURNAL OF HAPPINESS STUDIES | 3        | Netherlands | 3.1         | STUD SECOND LANG LE  | 129      | Poland      | 3.7         |
| 9    | PSYCHOLOGICAL REPORTS        | 3        | USA         | 1.7         | MOD LANG J           | 93       | USA         | 4.7         |
| 10   | TEACHING OF PSYCHOLOGY       | 3        | USA         | 0.7         | INT J ENV RES PUB HE | 88       | Switzerland | 4.614(2021) |

Among the top 10 most prolific journals, *Teaching of Psychology* maintained leadership from 2015 to 2019. Starting in 2019, *Frontiers in Psychology* experienced a rapid surge in publications, surpassing *Teaching of Psychology* by 2020 and sustaining a dominant position thereafter. Other journals demonstrated steady developmental trajectories (Fig.3c).

### 3.2.3 Data of Citations

The most cited article was *The Flowering of Positive Psychology in Foreign Language Teaching and*

*Acquisition Research* by Dewaele, Jean-Marc et al., which received 13 citations within the analyzed corpus of 54 studies. The second most cited work was *The Effects of a Character Strength Focused Positive Psychology Course on Undergraduate Happiness and Well-Being* by B.W. Smith et al., cited 9 times. Two articles ranked equally in third place, both cited six times, were entitled *The Predictive Effects of Classroom Environment and Trait Emotional Intelligence on Foreign Language Enjoyment and Anxiety* and *The Impact of a Wellbeing Program Embedded in University Classes—The Importance of Valuing Happiness, Baseline Wellbeing, and Practice Frequency*. (Table 3)

**Table 3.** The top 10 local cited references.

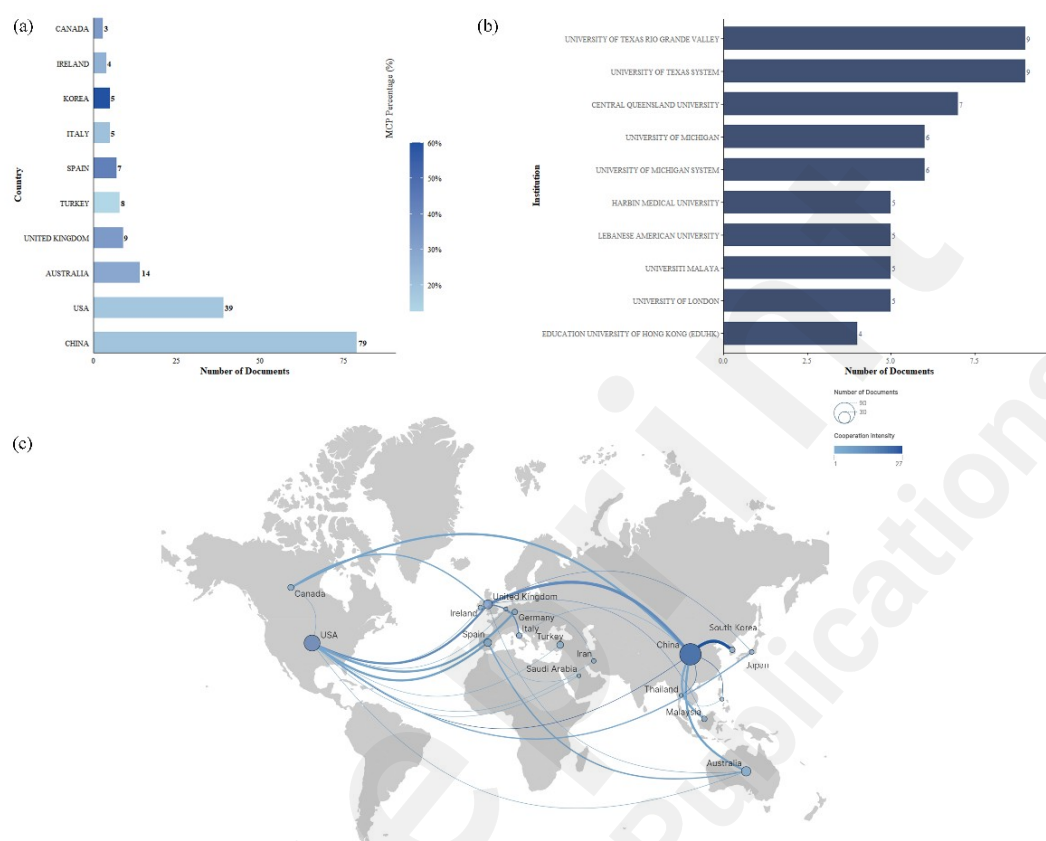
| Rank | Title                                                                                                                                                                                                                                                        | Authors              | DOI                           | Local Citation |
|------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------|-------------------------------|----------------|
| 1    | The Flowering of Positive Psychology in Foreign Language Teaching and Acquisition Research                                                                                                                                                                   | J.M. DEWAELE et al.  | 10.3389/fpsyg.2019.02128      | 13             |
| 2    | The Effects of a Character Strength Focused Positive Psychology Course on Undergraduate Happiness and Well-Being                                                                                                                                             | B.W. SMITH et al.    | 10.1007/s10902-020-00233-9    | 9              |
| 3    | The predictive effects of classroom environment and trait emotional intelligence on Foreign Language Enjoyment and Anxiety                                                                                                                                   | C.C.LI et al.        | 10.1016/j.system.2020.102393  | 6              |
| 4    | The impact of a wellbeing program imbedded in university classes: the importance of valuing happiness, baseline wellbeing and practice frequency                                                                                                             | T.YOUNG et al.       | 10.1080/03075079.2020.1793932 | 6              |
| 5    | Predicting the mental health of college students with psychological capital                                                                                                                                                                                  | P.R. SELVARAJ et al. | 10.1080/09638237.2018.1469738 | 4              |
| 6    | A systematic review of the effect of university positive psychology courses on student psychological wellbeing                                                                                                                                               | C. HOBBS et al.      | 10.3389/fpsyg.2022.1023140    | 4              |
| 7    | Positive Psychology and Familial Factors as Predictors of Latina/o Students' Psychological Grit Application of a classroom-based positive psychology education course for Chinese medical students to increase their psychological well-being: a pilot study | J.C. VELA et al.     | 10.1177/0739986315588917      | 3              |
| 8    | ANTS and POTS: Do They Change Lives? Students Perceptions on the Value of Positive Psychology Concepts                                                                                                                                                       | X.Q.ZHANG et al.     | 10.1186/s12909-020-02232-z    | 3              |
| 9    | Reducing anxiety in the foreign language classroom: A positive psychology approach                                                                                                                                                                           | V.WALTERS et al.     | 10.5204/ssj.v11i1.1461        | 3              |
| 10   |                                                                                                                                                                                                                                                              | Y.X.JIN et al.       | 10.1016/j.system.2021.102604  | 3              |

### 3.3 Visual Analysis of Institutions and Countries

The three most productive countries were China (79 articles, 33.8%), the United States (39 articles, 16.7%), and Australia (14 articles, 6.0%). Among the top 10 nations, China and Turkey were the only developing countries represented (Fig.4a).

A total of 356 institutions contributed to research in this field. The University of Texas Rio Grande Valley and the University of Texas System ranked first (9 articles, 3.8%), followed by Central Queensland University (7 articles, 3.0%) (Fig.4b). Globally, international collaborations remain closely interconnected, with China, the U.S., and the U.K. constituting the strongest tripartite

network nodes. Notably, the Sino-South Korean partnership represents the most intensive bilateral cooperation nexus within this framework. (Fig.4c).



**Fig. 4** Status of publications by countries and institutions. (a) The top 10 countries with the most published documents. (b) The top 10 institutions with the most published documents. (c) Map of national partnerships.( Co-authorship networks among corresponding authors' countries were visualized based on publications with at least one citation or co-authorship. Link strength reflects collaboration intensity between countries, while node size corresponds to publication frequency by country.)

### 3.4. Co-occurrence keywords and burst keywords analysis

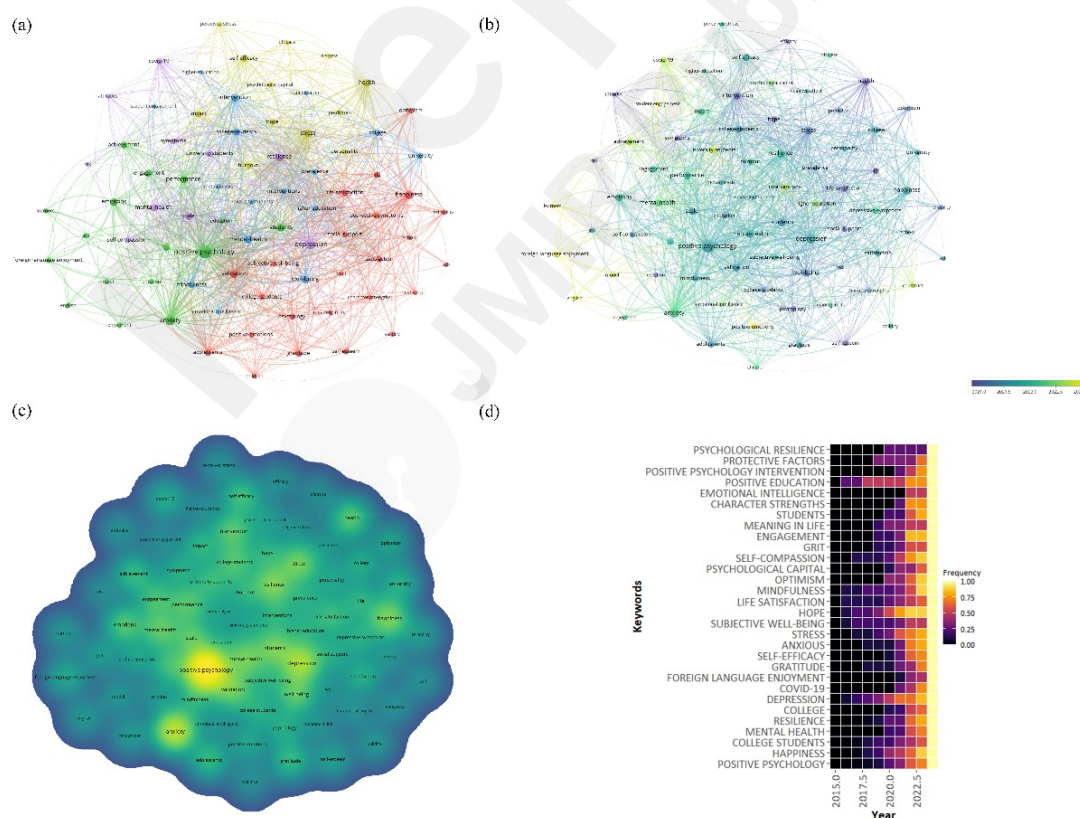
We summarized and statistically analyzed Seventy-seven keywords related to positive psychology in the university student domain. The red cluster primarily focuses on psychological feelings such as identity and happiness. The blue cluster emphasizes higher education aspects such as university students and advanced academic qualifications. The yellow cluster centers on individual issues like health and stress, while the purple cluster addresses psychological concerns such as depression. The green cluster highlights the theoretical components of positive psychology itself. (Fig.5a)

All keywords emerged between 2021 and 2023. During the 2021-2022 period, keywords within the cyan and green clusters constituted the predominant portion of the research landscape. After 2023,

keywords were primarily concentrated in the yellow cluster, with a notably smaller quantity. (Fig.5b)

In the co-occurrence keyword density analysis, the red cluster demonstrated the most prominent keywords as happiness and validation. The blue cluster showed predominant attention towards intervention and mental health, while self-efficacy emerged as the highest-frequency term in the yellow cluster. Within the purple cluster, resilience represented the most prevalent research focus, whereas the green cluster was characterized by high-density concentrations of anxiety, emotional regulation, and patient engagement. (Fig.5c)

We have summarized the top thirty keywords in positive psychology research among college students. The concept of "psychology education" first reached maturity in 2015. Subsequently in 2016, "hope" emerged as the next mature research emphases. During the period from 2017 to 2020, "subjective well-being" gradually gained prominence as mature research themes. Following 2020, the majority of keywords including "happiness," "psychological resilience," and "character strengths" attained maturity. (Fig.5d)



**Fig. 5** The main keywords and research heat. (a) The network visualization map of co-occurrence keywords. The colors represent different clusters. (b) The overlay network visualization map of co-occurrence keywords for Positive Psychology research. (c) The

density visualization map of co-occurrence keywords for Positive Psychology research. (d) The keywords with the strongest citation bursts. (Explained: (a) the colors represent different clusters. (b) the colors represent the time when the word appeared. (c) the density visualization results based on keywords and hot spot intensity, where warm colors represent hot areas and cool colors represent cold areas. (d) the brightening of the colour indicates the maturity of the keywords over time).

## 4. Discussion

This study conducted a bibliometric analysis of the literature on positive psychology in the field of college students, incorporating a total of 234 publications. It analyzed and visualized publication patterns, author contributions, and institutional collaborations within the domain, while assessing the current research landscape and developmental trends of positive psychology in the college student context.

### 4.1. Analysis and characteristics of authors and journals, countries and institutions

The analysis demonstrates that despite the relatively small total output, the growing international participation indicates this field is entering a phase of rapid development. While numerous authors have contributed to positive psychology research in college education, few demonstrate sustained research productivity. The author contribution pattern shows minimal disparity in output among researchers, with only a limited number maintaining consistent focus in this domain. Similar imbalances exist in journal distribution, where only one journal among relevant publications boasts an impact factor exceeding 10. (Table 2)

This indicates that current global attention to positive psychology in the context of college students remains limited. As a relatively young sub-discipline within psychological science, positive psychology was formally established in 2000, and its theoretical frameworks and research foundations are still in the developmental stage<sup>19</sup> (Seligman ME et al., 2000). Concurrently, in the field of college students, most current positive psychology interventions persist in exploratory pilot phases. Furthermore, key stakeholders within the educational ecosystem—including university faculty, administrators, and students themselves—exhibit persistent cognitive gaps regarding positive psychology interventions. These factors collectively likely contribute to the current lack of widespread engagement with positive psychology in higher education contexts (Shrivastava A et al., 2024)<sup>20</sup>.

As can be seen from Fig. 4, developed countries dominate this research field, which is related to their advanced educational systems and psychological research capabilities. These countries' superior educational resources, top-tier researchers, and specialized institutions account for their substantial publication advantage over developing nations. British authors demonstrate exceptional productivity in publication quantity, while American researchers and journals dominate in citation frequency and high-impact outputs. Notably, China as a developing country exhibits frequent international collaboration, particularly with leading institutions in the United States and United Kingdom. (Fig.4c)

## 4.2. Analysis and characteristics of keywords

In the field of higher education, the keyword “psychology education” first matured and emerged in 2015. In the context of college student education, positive psychology predominantly manifests in the form of positive prevention and intervention programs(Pluskota A,2014)<sup>16</sup>. Positive psychology interventions refer to any intentional activities or methods based on (a) cultivating positive subjective experiences, (b) building positive individual traits, or (c) establishing civic virtues and positive institutions(Meyers MC et al., 2013)<sup>13</sup>. As the most commonly used research methodology in the field of positive psychology studies on college students, “Positive psychology intervention” has also become one of the key terms in higher education. Positive psychology interventions first appeared in 2022 and continue to thrive to this day, demonstrating strong associations with numerous keywords within the higher education cluster. This indicates that the implementation of positive psychology in college student education is grounded in positive psychology interventions, which have become indispensable in this field.

In the constitutive domains of positive psychology itself, “character strengths” has emerged as a matured keyword in recent years, first appearing in 2022. It is applied in mental health education for college students(García-Alvarez D et al.,2020)<sup>3</sup>. Specifically, “hope”, “grit”, and “optimism” are the most frequently occurring keywords. Among these, “hope” emerged earliest in 2016 and matured most rapidly, with research focusing on its relationship to academic outcomes and life satisfaction (Tejada-Gallardo C et al., 2020; Luo YF et al., 2019)<sup>11,22</sup>. “Grit” and “optimism” appeared later, suggesting that while positive psychology promotes academic and life improvements for college students, there remains room for development. Future advancements in college student positive psychology may prioritize this area.

In the domain of psychological experiences, the most frequent keywords are “happiness” and “validation”, with research emphasizing the role of positive psychology in enhancing well-being. Current evidence confirms that positive psychology interventions effectively improve college students’ happiness (Tejada-Gallardo C et al., 2020; Maybury KK, 2013)<sup>12,22</sup>, indicating that positive psychology increasingly focuses on fostering positive psychological experiences to elevate students’ well-being and life satisfaction.

In the field of college student mental health, the most cited negative psychological factors are “depression”, “stress”, and “anxiety”, prominently reflected in Figure. 5c. Studies demonstrate that positive psychology interventions alleviate depressive symptoms and reduce stress (Goodmon LB et al., 2016; Pan SN et al., 2022)<sup>4,14</sup>, offering novel approaches to addressing these issues. Among positive psychological factors, “psychological resilience” is frequently mentioned. This keyword first appeared in 2022 and has rapidly developed in college student research, such as studies showing that psychological resilience facilitates mental health recovery (Kotera Y et al., 2022)<sup>10</sup>. This underscores positive psychology’s focus on addressing college students’ psychological issues, with research objectives prioritizing mental health improvement. Additionally, psychological resilience serves as a critical evaluation metric for assessing the efficacy of positive psychology interventions (Gürkan U et al., 2020; Sari T et al., 2025)<sup>5,18</sup>, solidifying its indispensable role in the field.

Notably, the COVID-19 pandemic caused varying degrees of psychological trauma among college students, making “COVID-19” itself a keyword in college student positive psychology. Post-pandemic, researchers have employed positive psychology intervention models to help buffer, support, and rebuild mental health (Garcia-Alvarez D et al., 2021; Sudha R et al., 2022; Waters L et al., 2022)<sup>2,21,26</sup>. Beyond mental health, interventions also focus on fostering post-traumatic growth and reconstructing psychological resilience in college students after COVID-19 (Wang CY et al., 2022)<sup>23</sup>. Furthermore, the widespread development of positive psychology in higher education has improved teacher-student relationships post-pandemic (Wang SS, 2021)<sup>25</sup>. This suggests that while COVID-19 caused indelible psychological harm, it simultaneously catalyzed advancements in college student positive psychology.

### **4.3. Limitations of this study**

This study also has certain limitations. This study selected the WoSCC, limited to English literature,

and did not select additional other databases as a supplement, so the data obtained have certain limitations. In addition, errors are inevitable due to manual screening of documents in this study.

## 5. Conclusion

Positive psychology in the field of college students remains in its nascent stage, with substantial room for researchers to explore. Current studies predominantly focus on positive psychology interventions in college student education. Future research in this domain will likely expand toward areas such as college students' well-being and psychological resilience. Furthermore, the COVID-19 pandemic has introduced both opportunities and challenges for the advancement of positive psychology in the college student context, emerging as a critical keyword of focus in the field.

## Appendix A. A Searching Strategy

### Availability of data and materials

All data generated or analyzed during this study are included in this published article.

### Funding

The study has received funding from 2024 Hunan Provincial Higher Education Ideological and Political Work Research Project (24C01).

### Statements and Declarations

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

### Author contribution

**Xiaoci Yi:** Writing - Original Draft; Formal analysis; Funding acquisition; Visualization; Methodology. **Yue Li:** Writing-review & editing; Data curation; Formal analysis; Investigation; Resources. **Zexu Lin and Anji Ren:** Formal analysis; Methodology. **Kai Huang and Junfei Luo:** Writing-review & editing; Project administration; Resources.

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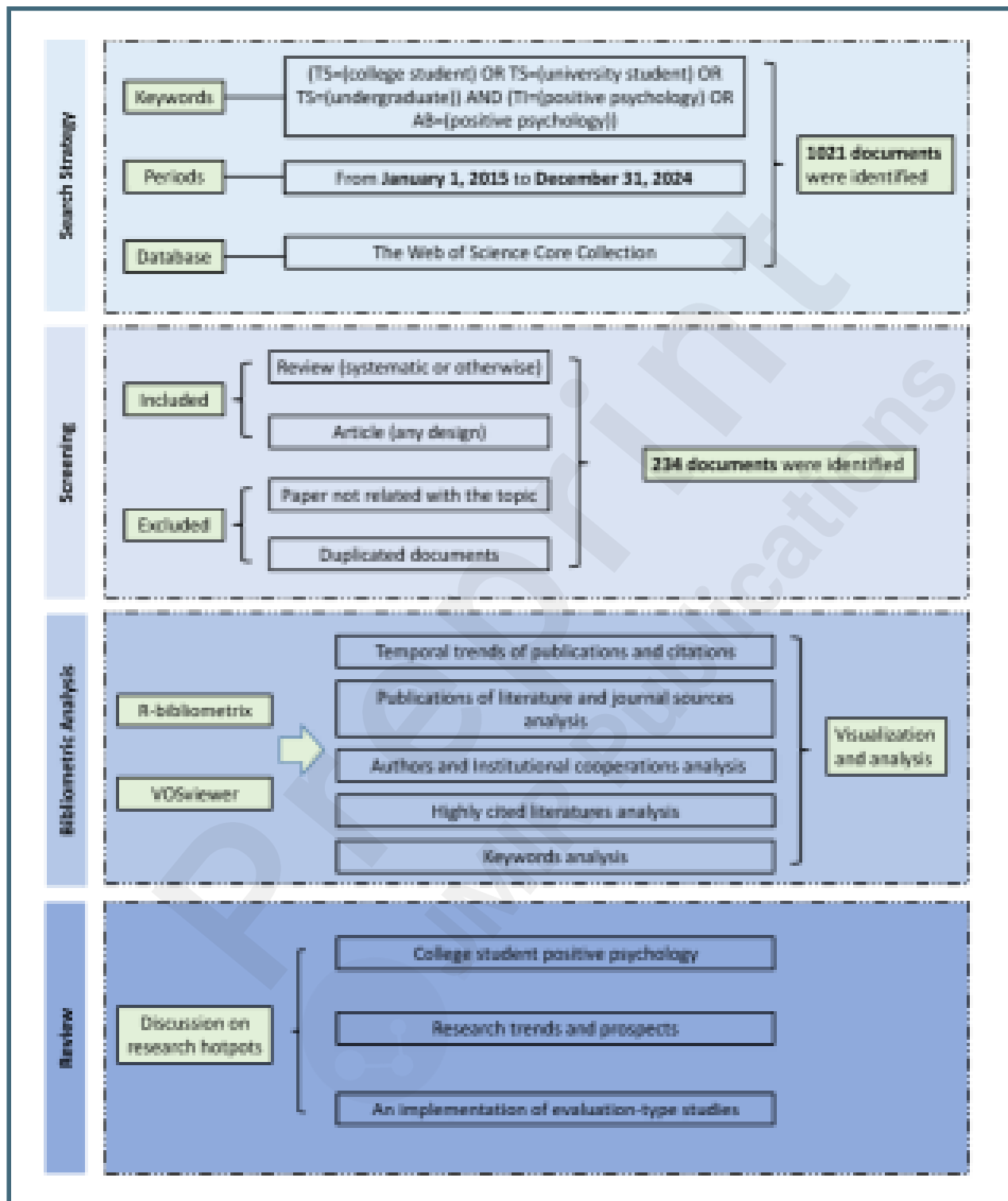
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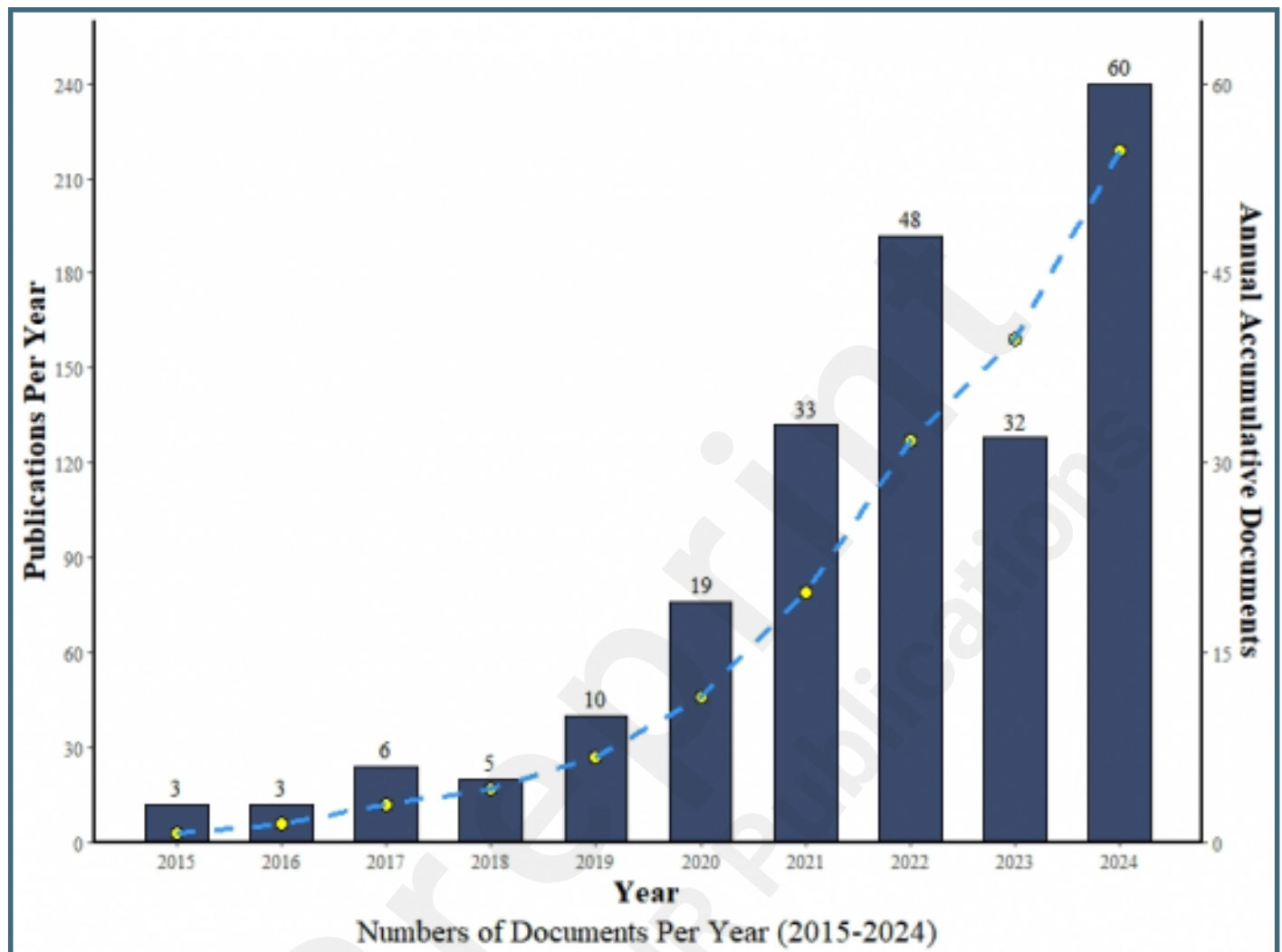
## Supplementary Files

## Figures

Literature data screening process and data analysis strategies. The search strategy is shown in Appendix A.



Overall situation of the documents. The left axis indicates the annual number of publications, while the right axis represents the cumulative total number of publications up to the current year.



## Multimedia Appendixes

The top 10 authors and local citations authors.

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The top 10 journals and local cited journals.

URL: <http://asset.jmir.pub/assets/9cf2c5ebd5eb012ae4406ceb2302a760.docx>

The top 10 local cited references.

URL: <http://asset.jmir.pub/assets/d1bcc844a58fda3f75eface549dff523.docx>

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URL: <http://asset.jmir.pub/assets/0fc5b9d83f0c768002a6f89f9fc96d34.docx>

Status of publications by author and journal. (a) The relationships between the top 10 productive authors' g\_index and m\_index. (b) The top 10 authors' production over time. (c) Top 10 journals with the most published articles.

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Status of publications by countries and institutions. (a) The top 10 countries with the most published documents. (b) The top 10 institutions with the most published documents. (c) Map of national partnerships.(Co-authorship networks among corresponding authors' countries were visualized based on publications with at least one citation or co-authorship. Link strength reflects collaboration intensity between countries, while node size corresponds to publication frequency by country).

URL: <http://asset.jmir.pub/assets/3a4d8c56047eb79e4378d3fa1f09f53b.png>

The main keywords and research heat. (a) The network visualization map of co-occurrence keywords. The colors represent different clusters. (b) The overlay network visualization map of co-occurrence keywords for Positive Psychology research. (c) The density visualization map of co-occurrence keywords for Positive Psychology research. (d)The keywords with the strongest citation bursts. (Explained:(a) the colors represent different clusters. (b) the colors represent the time when the word appeared. (c) the density visualization results based on keywords and hot spot intensity, where warm colors represent hot areas and cool colors represent cold areas. (d) the brightening of the colour indicates the maturity of the keywords over time).

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