

MAPPING RESEARCH ON CHARACTER STRENGTHS AND PSYCHOLOGICAL WELL-BEING: A BIBLIOMETRIC ANALYSIS FROM 2004 TO 2026

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Abstract. This study aims to map the development, productivity, influence, and conceptual structure of studies on character strengths and psychological well-being from 2004 to June 2026. Data were obtained from Scopus. After filtering and metadata cleaning, 158 documents from 105 sources, 465 authors, and 43 countries or regions were analyzed using Microsoft Excel and Bibliometric via Biblioshiny. The United States was the most productive country, with 95 contributions (25.5%); *Frontiers in Psychology* was the primary source, with 14 articles (8.86%); and Weziak-Bialowolska was the most prolific author, with 6 articles. McCullough and Willoughby obtained 879 citations, averaging 48.8 citations per year. Huber, Höfer, Höge, and Strecker had the highest local h-index of 5, each with five articles and 223 citations. Dominant themes included character strengths, well-being, positive psychology, mental health, life satisfaction, gratitude, resilience, and social support. These findings illustrate the conceptual link between character strengths, psychological well-being, mental health, and adaptive functioning.

Keywords: positive psychology, mental health, life satisfaction, gratitude, resilience, social support

INTRODUCTION

Positive psychology broadens psychology's focus from disorders and dysfunctions to strengths, virtues, and the conditions that enable individuals to function optimally (Seligman & Csikszentmihalyi, 2000). Within this framework, well-being refers not only to the absence of psychological problems but also to an individual's ability to live a meaningful life, develop their potential, build positive relationships, and cope adaptively with life's demands.

Studies of well-being are generally divided into hedonic and eudaimonic approaches. The hedonic approach emphasizes life satisfaction, positive affect, and reduced negative affect, thereby more closely aligning with subjective well-being (SWB) (Diener, 1984). Conversely, the eudaimonic approach emphasizes self-actualization, meaningfulness in life, and optimal functioning, thereby more closely aligning with psychological well-being (PWB) (Ryff, 1989; Keyes et al., 2002). Although related, the two have distinct focuses: SWB explains how individuals evaluate and perceive their lives, while PWB explains how individuals function and thrive.

This study focuses on PWB, which encompasses six dimensions: self-acceptance, positive relationships with others, autonomy, environmental mastery, purpose in life, and personal growth (Ryff, 1989). One psychological resource widely associated with these dimensions is character strengths. Peterson and Seligman (2004) classified 24 character strengths into six core virtues: wisdom, courage, humanity, justice, self-control, and transcendence. Character strengths are understood as positive capacities reflected in thoughts, feelings, and behaviors, and can be used to support individual functioning.

Each character strength can be related to PWB through different mechanisms. Hope can be related to purpose in life and a positive outlook on the future; gratitude and appreciation for life experiences; persistence and self-regulation for goal achievement and environmental mastery; and

love and kindness for interpersonal relationships. Hausler et al. (2017) showed that overall positive character traits are more strongly related to PWB than SWB. However, the pattern of relationships among strengths varies depending on the aspect of well-being being measured. Casali and Feraco's (2025) meta-analysis also found that most character strengths were associated with healthier functioning. However, the magnitude of the association varied by strength, outcome indicator, population, and study design.

This research has generated a vast body of literature in the contexts of education, work, organizations, health, family, and various stages of development. The literature also uses a variety of terms, such as well-being, life satisfaction, mental health, resilience, gratitude, hope, mindfulness, and strengths. This diversity enriches the field but also makes it difficult to identify key contributors, influential publications, and conceptual structure through narrative review alone.

Previous bibliometric studies have mapped positive psychology, SWB, PWB, and character strengths from different angles. Schui and Krampen (2010), Rusk and Waters (2013), and Wang et al. (2023) discuss the development of positive psychology broadly, leaving character strengths and PWB as only a subset of numerous themes. Studies of SWB by Dominko and Verbič (2019a, 2019b), Huang et al. (2022), and Xu et al. (2022) focused on the economy, the elderly, or the urban environment and thus did not directly explain PWB as a eudaimonic construct.

In the field of PWB, Kúld et al. (2021) focused on children with visual impairments, while Ambhore and Ofori (2023) limited their analysis to economics and business. Yiğit and Çakmak (2024) then mapped 16,885 PWB publications in Web of Science from 1980 to 2022 and identified growth in publications, countries, sources, authors, citations, and key themes. While comprehensive, this study used PWB as a broad focus and did not limit the documents to character strengths.

Conversely, Feraco and Casali (2025) mapped 914 research documents on character strengths and showed that well-being is a significant theme in the field. However, their scope also encompassed measurement, education, organizations, personality, resilience, and mental health. Thus, PWB remains positioned as a theme rather than a specific boundary for document selection.

This comparison reveals a gap in the intersection of the two constructs. Bibliometrics of PWB are too broad to specifically explain the position of character strengths, while bibliometrics of character strengths have not focused on PWB. Empirical research and meta-analyses have examined the relationship between the two constructs but have not yet provided an integrative description of the structure of production, scientific influence, and conceptual relationships in the literature.

This study uses bibliometric analysis to address this gap. Performance analysis is used to identify the most productive countries, journals, and authors, as well as the most influential publications and authors. Scientific mapping through keyword co-occurrence networks, thematic maps, and factorial analysis is used to identify themes and the field's conceptual structure (Zupic & Čater, 2015; Donthu et al., 2021). Bibliometrics are not used to prove correlation or causality; the term "relationship" in this study refers to conceptual interconnections in the literature.

The novelty of this research lies in limiting the unit of analysis to publications that simultaneously discuss character strengths and PWB, using the Scopus database, updating the period to June 2026, and combining productivity, citation, and conceptual structure analyses. Based on these objectives, this study answers three questions: (1) which countries, journals, and authors are the most productive based on the number of publications; (2) which publications and authors are the most influential based on citation indicators; and (3) what themes, keywords, and

conceptual structures are dominant in research on character strengths and PWB for the period 2004–June 2026.

METHODS

This study used bibliometric analysis to map the scientific productivity, citation impact, and conceptual structure of research on character strengths and psychological well-being. Data were obtained from the Scopus database via the advanced search menu using the TITLE-ABS-KEY option, allowing searches of titles, abstracts, and keywords. The search syntax used was:

(TITLE-ABS-KEY (psychological AND well-being) AND TITLE-ABS-KEY (character AND strengths)) AND (LIMIT-TO (SUBJAREA, "PSYC") OR LIMIT-TO (SUBJAREA, "SOC")) AND (LIMIT-TO (LANGUAGE, "English"))

The search was limited to English-language publications in psychology and the social sciences between 2004 and June 2026. 2004 is the earliest publication year in the dataset, while the 2026 data was treated as partial data because it did not cover a full calendar year.

Documents were included if they were indexed in Scopus, published between 2004 and June 2026, in English, in the field of psychology or social sciences, relevant to character strengths and psychological well-being, and had adequate bibliographic metadata. The initial search yielded 160 documents. After review and metadata cleaning, 158 documents were used as the final dataset. The data were then exported from Scopus in BibTeX (.bib) format.

Bibliometric analysis is used to identify intellectual structure, productivity, scientific impact, and thematic developments in complex research fields (Zupic & Čater, 2015; Donthu et al., 2021). This approach enables systematic mapping of research patterns using publication metadata (Liu et al., 2015; Yan et al., 2015).

Data were processed using Microsoft Excel and Bibliometrix through the Biblioshiny interface (Aria & Cuccurullo, 2017). Excel was used for data examination and descriptive statistics, while BiblioShiny was used for performance analysis and scientific mapping. Performance analysis included sources, authors, countries, cited documents, and authors' local impact. Scientific mapping included co-occurrence networks, thematic maps, and factorial analysis. The number of publications indicated productivity, while citations and bibliometric indices indicated scientific influence. Relationships between keywords were interpreted as conceptual proximity rather than causal relationships.

RESULTS

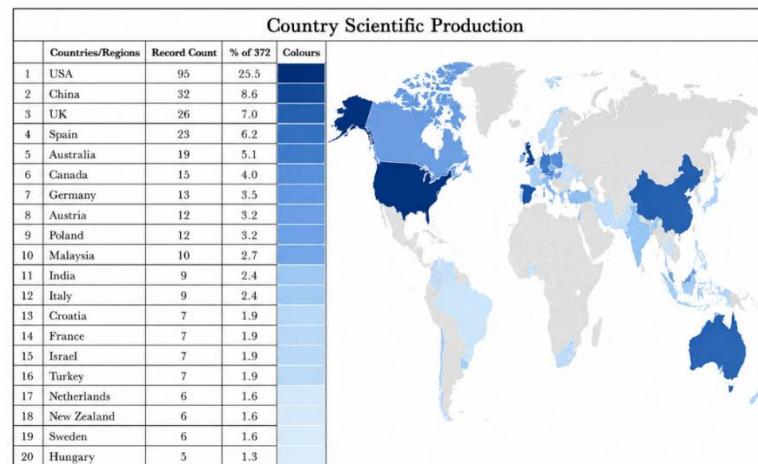
The analysis was conducted on 158 documents on character strengths and psychological well-being published between 2004 and June 2026. Based on Biblioshiny's processing, these documents were distributed across 105 publication sources, involving 465 authors, and comprising contributions from 43 countries or regions. The 2026 publication data is partial because data collection took place in June 2026.

Most Prolific Countries

Based on the country-level scientific production analysis in Biblioshiny (see Figure 1), 43 countries or regions were identified, with a total country-contribution frequency of 372. This number represents the frequency of country involvement based on author affiliation in each publication.

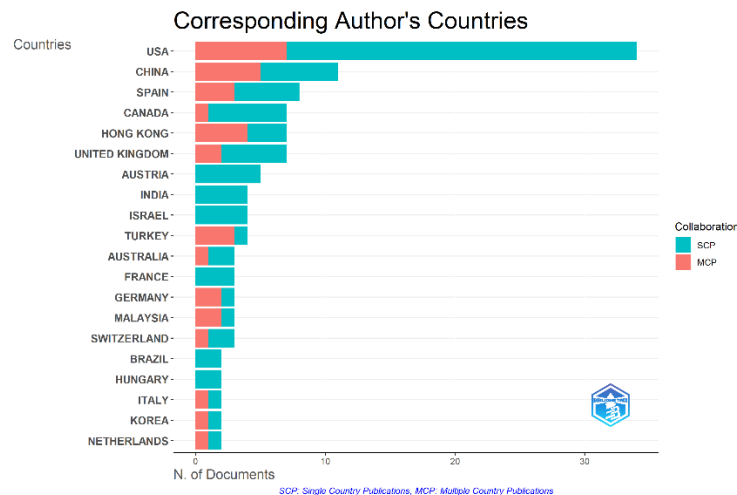
The United States ranked first with 95 contributions, or 25.5% of the total frequency. China ranks second with a contribution of 8.6%, followed by the UK at 7.0%, Spain at 6.2%, and Australia at 5.1%.

Figure 1. Country Scientific Production



The analysis of corresponding authors' countries on Biblioshiny shows that the United States is also the country of origin of the corresponding authors with the highest number of publications, with 34 articles, accounting for 21.52% of the 158 documents. China produced 11 articles, while Spain produced 8. Canada, Hong Kong, and the United Kingdom each recorded 7 articles (see Figure 2).

Figure 2. Corresponding Author's Countries



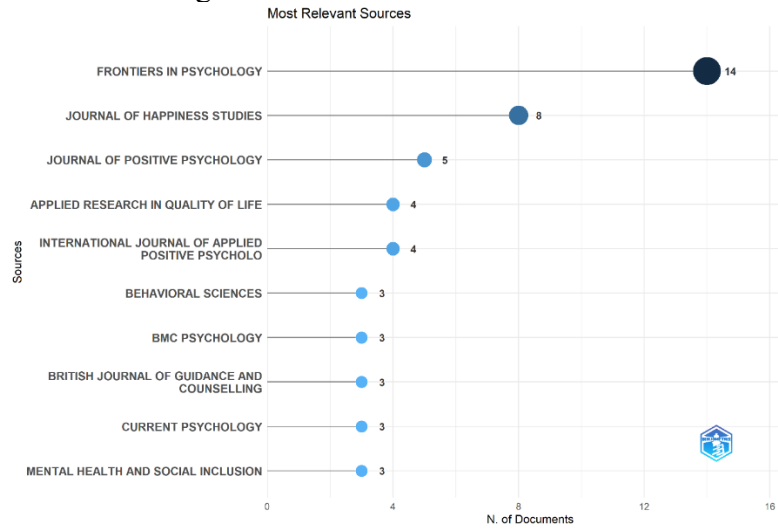
Based on the Single Country Publications and Multiple Country Publications categories, Turkey, Germany, Malaysia, and Hong Kong have a relatively high proportion of international collaborative publications. Indonesia recorded one article, which falls into the Multiple Country Publication category.

Most Productive Publication Sources

Based on the analysis of the most relevant sources on Biblioshiny, 158 documents were published in 105 scientific sources (see Figure 3). Frontiers in Psychology was the source with the most publications, with 14 articles, or 8.86% of all documents.

Next in line were the Journal of Happiness Studies, with 8 articles, and the Journal of Positive Psychology, with 5 articles. Applied Research in Quality of Life and the International Journal of Applied Positive Psychology each published 4 articles.

Figure 3. Most Relevant Sources



Five other sources—Behavioral Sciences, BMC Psychology, British Journal of Guidance and Counseling, Current Psychology, and Mental Health and Social Inclusion—each published three articles. Overall, the top 10 publication sources produced 50 articles, accounting for 31.65% of the total dataset. The remaining 84 sources each published one article.

Most Productive Authors

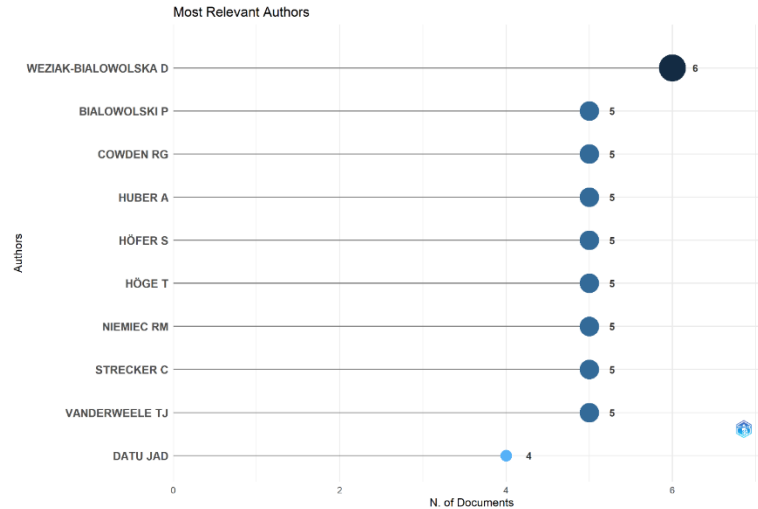
Based on the results of the Most Relevant Authors analysis on Biblioshiny, 465 authors were identified in the dataset (see Figure 4). Weziak-Bialowolska D. was listed as the author with the most publications, with six articles. Publications featuring Weziak-Bialowolska D. in the dataset include research on honesty and integrity, as well as the climate of psychological care in the workplace (Weziak-Bialowolska et al., 2021, 2023).

Bialowolski P, Cowden RG, Huber A, Höfer S, Höge T, Niemiec RM, Strecker C, and VanderWeele TJ each produced five articles. These authors are listed in several publications in the dataset, including studies by Hausler et al. (2017), Weziak-Bialowolska et al. (2021), and Weziak-Bialowolska et al. (2023).

Datu JAD produced four articles and is listed, among others, in the study by Tang et al. (2023). Chen Y, Hausler M, Kashdan TB, Lavy S, Littman-Ovadia H, McNeely E, Ruch W, and Wong YJ each produced three articles. Publications featuring these authors include studies by Hausler et al. (2017), Kashdan et al. (2018), Littman-Ovadia and Lavy (2016), Ruch et al. (2010), Tang et al. (2023), and Weziak-Bialowolska et al. (2023).

Baños RM and Bechara AO each produced two articles. Baños RM is included in the study by Cebolla et al. (2026), while Bechara AO is included in the study by Cowden et al. (2023).

Figure 4. Most Relevant Authors



Based on the Articles Fractionalized indicator in Biblioshiny, Niemiec, R.M. received the highest score of 2.14. Publications that include Niemiec RM in the dataset include Weziak-Bialowolska et al. (2021). Next in rank are Lavy S with a score of 1.83 and Littman-Ovadia H with a score of 1.33. Both authors are listed together in the study by Littman-Ovadia and Lavy (2016).

Publications with the Highest Global Citations

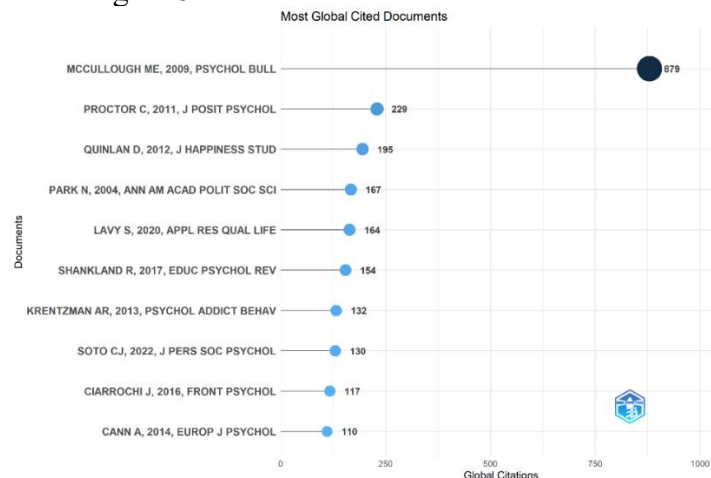
According to Biblioshiny's analysis of the most-cited documents globally, McCullough et al.'s (2009) publication ranks first with 879 citations. This publication also received the highest average annual citations, at 48.8.

Proctor et al.'s (2011) comes in second with 229 citations, followed by Quinlan et al.'s (2012) with 195 citations. Park et al.'s (2004) publication received 167 citations, while Lavy et al.'s (2020) received 164 citations.

Other publications with over 100 global citations include Shankland et al. (2017), Krentzman et al. (2013), Soto et al. (2022), Ciarrochi et al. (2016), and Cann et al. (2014). The ten most highly cited documents were published between 2004 and 2022.

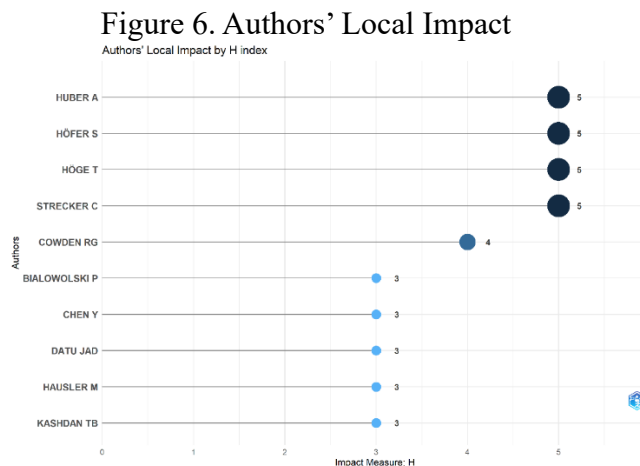
Based on the average annual citation rate, Soto et al. (2022) received approximately 26 citations per year. This publication recorded the highest normalized citation value of 5.43, followed by Lavy et al. (2020) with 5.18 (see Figure 5).

Figure 5. Most Global Cited Documents



Authors' Scientific Impact

The Authors' Local Impact analysis on Biblioshiny shows that Huber A, Höfer S., Höge T., and Strecker C. have the highest h-index, each with a score of 5. These four authors also have a g-index of 5 and an m-index of 0.50. These authors are listed together in several publications on character strengths and psychological well-being (Hausler et al., 2017; Huber et al., 2020, 2021; Kachel et al., 2020) (see Figure 6).



Each author produced five articles with a total of 223 citations and an initial publication year in the dataset of 2017. Cowden RG ranks next with an h-index of 4 and a g-index of 5. This author produced five articles with a total of 82 citations and recorded the highest m-index of 0.80, with an initial publication year of 2022. Cowden RG's publications in the dataset include discussions on forgiveness and well-being, as well as psychological caring climates in the workplace (Cowden et al., 2023; Weziak-Bialowolska et al., 2023).

Several authors have an h-index of 3, namely Bialowolski P, Chen Y, Datu JAD, Hausler M, Kashdan TB, Lavy S, Littman-Ovadia H, McNeely E, Niemiec RM, Ruch W, VanderWeele TJ, Weziak-Bialowolska D, and Wong YJ. Publications featuring these authors in the dataset include research on honesty and integrity (Weziak-Bialowolska et al., 2021), psychological caring climate in the workplace (Weziak-Bialowolska et al., 2023), character strengths and psychological well-being (Hausler et al., 2017), personality strengths in romantic relationships (Kashdan et al., 2018), perseverance as a character strength in the workplace (Littman-Ovadia & Lavy, 2016), humor as a character strength (Ruch et al., 2010), and measuring the character strength of encouragement (Tang et al., 2023).

Among these authors, Lavy S. received the highest total, with 251 citations across three articles. One of her publications discusses perseverance as a character strength in the work context (Littman-Ovadia & Lavy, 2016). Hausler M received 174 citations and was included in research on the relationship between character strengths and subjective well-being and psychological well-being (Hausler et al., 2017). Ruch received 167 citations, and one of her publications discussed humor as a character strength in older adults (Ruch et al., 2010). Kashdan TB received 150 citations and was included in research on personality strengths in romantic relationships (Kashdan et al., 2018).

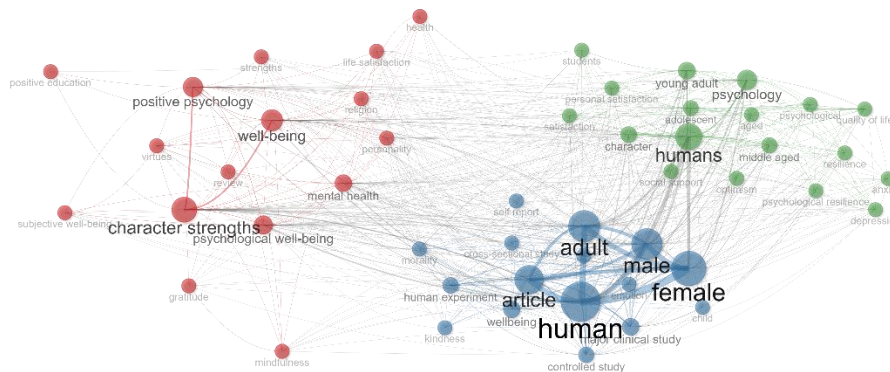
Weziak-Bialowolska produced six articles with an h-index of 3, a g-index of 6, and a total of 130 citations. Her publications in the dataset include those that discuss the role of honesty and integrity in health and in a climate of psychological care in the workplace (Weziak-Bialowolska et al., 2021, 2023).

Based on the h-index, the highest positions were occupied by Huber A, Höfer S, Höge T, and Strecker C. Based on total citations, Lavy S recorded the highest value of 251 citations, while based on the m-index, the highest value was obtained by Cowden RG at 0.80.

Keyword Co-occurrence Network

Based on the results of the co-occurrence network analysis on Biblioshiny, 50 terms were divided into three clusters. The first cluster comprised 16 terms: character strengths, well-being, positive psychology, psychological well-being, mental health, life satisfaction, subjective well-being, personality, virtues, mindfulness, religion, gratitude, and positive education (see Figure 7).

Figure 7. Co-occurrence Network of Keywords for Research on Character Strengths and Psychological Well-Being



In the first cluster, the term "character strengths" has a betweenness centrality of 50.80 and a PageRank of 0.0364. The term "well-being" has a betweenness centrality of 39.23, a closeness centrality of 0.0192, and a PageRank of 0.0304.

The second cluster consists of 16 terms: "human," "female," "adult," "male," "article," "controlled study," "major clinical study," "human experiment," "questionnaire," "self-report," "cross-sectional study," "morality," "emotion," and "kindness." The term "human" has a betweenness centrality of 89.91, a closeness centrality of 0.0200, and a PageRank of 0.0679.

The third cluster comprises 18 terms: humans, psychology, character, young adult, adolescent, middle-aged, quality of life, depression, satisfaction, personal satisfaction, resilience, social support, optimism, psychological resilience, students, and anxiety.

The term "humans" has a betweenness centrality of 27.22 and a PageRank of 0.0429. The term "psychology" has a betweenness centrality of 9.00 and a PageRank of 0.0295, while "young adult" has a PageRank of 0.0240.

Thematic Map

The thematic map analysis of Biblioshiny yielded six main theme groups encompassing 242 terms (see Figure 8). These six groups were labeled based on the dominant term: "character strengths," "human," "humans," "life satisfaction," "satisfaction," and "questionnaire."

The character strengths theme consisted of 55 terms with a total group frequency of 373. The dominant terms in this group were character strengths (59 occurrences), well-being (47 occurrences), positive psychology (44 occurrences), and mental health (23 occurrences). This theme had a group PageRank value of 0.1561.

The human theme comprised 48 terms, with a total frequency of 431. The term "human" appeared 58 times, "female" 45 times, "adult" 40 times, "article" 38 times, "male" 37 times, and "psychological well-being" 31 times.

The humans' theme consisted of 52 terms with a total frequency of 284. The term "human" appeared 33 times and "psychology" 23 times, while "character" and "young adult" each appeared 17 times. The terms "adolescent," "middle-aged," and "quality of life" each appeared 14 times.

The theme "life satisfaction" consisted of 21 terms with a total frequency of 78 and a group PageRank value of 0.1646. The term "life satisfaction" appeared 13 times, "optimism" eight times, and "anxiety" and "child" six times each.

Figure 8

The theme "satisfaction" comprised 33 terms, with a total frequency of 120. The term "satisfaction" appeared 12 times, "aged" 11 times, "personal satisfaction" 9 times, "religion" 8 times, and "strengths" 7 times.

The "questionnaire" theme consisted of 33 terms, with a total frequency of 126. The term "questionnaire" appeared 10 times, "self-report" 8 times, "students" 7 times, and "motivation" and "psychometrics" 6 times each.

Factorial Analysis

Based on the results of the factorial analysis on Biblioshiny, 54 terms were mapped onto two dimensions, all of which were grouped into a single cluster (see Figure 9). The terms closest to the center of the map were "well-being" (0.122), "gratitude" (0.134), "health" (0.197), "review" (0.233), "positive psychology" (0.234), "strengths" (0.234), "character strengths" (0.309), "life satisfaction" (0.354), and "virtues" (0.393).

Figure 9

On the factorial map, "character strengths" was located at coordinates (-0.15; -0.27), "well-being" at (-0.12; -0.02), "gratitude" at (-0.12; -0.06), and "positive psychology" at (-0.15; 0.18). The term "psychological well-being" is at coordinates (0.25; -0.68), while "kindness" is at coordinates (0.71; -1.80).

The term "optimism" is at coordinates (1.46; 0.40), "resilience" at (1.11; 1.12), "psychological" at (1.49; 1.90), and "personal satisfaction" at (1.89; 1.19). The term "emotion" is at coordinates (1.76; -1.39), "cross-sectional study" at (1.45; -1.58), and "major clinical study" at (1.38; -1.38).

DISCUSSION

In this study, bibliometric mapping was used to identify the most productive countries, publication sources, and authors in the study of character strengths and psychological well-being. Unlike studies of psychological well-being, which cover a broad range of fields (Yiğit & Çakmak, 2024), this study focused on the intersection of these two constructs. The findings indicate that scientific production remains concentrated in a few countries, particularly the United States, which ranks highest based on author affiliation and the country of the corresponding author. This pattern aligns with the United States' dominance in the psychological well-being literature in general.

When analyzing global publication output, contributions from China, the United Kingdom, Spain, and Australia are lower than those of the United States. In contrast, Turkey, Germany, Malaysia, and Hong Kong exhibit relatively high proportions of international collaboration. This situation suggests that national productivity and the intensity of cross-national collaboration do not always flow in the same direction. Indonesia's contribution of only one article also demonstrates the limited representation of non-Western contexts.

A total of 158 documents were distributed across 105 sources, with *Frontiers in Psychology* being the most productive journal. However, the top ten sources account for only 31.65% of the documents, leaving the field spread across many journals. At the author level, Weziak-Białowolska D was the most productive author, while Niemiec RM had the highest Articles Fractionalized

score. This difference confirms that the number of publications and proportional contribution are different indicators of productivity.

In this study, citation analysis was used to identify the most influential publications and authors in the study of character strengths and psychological well-being. When global citation counts were analyzed, McCullough and Willoughby's (2009) publication ranked first. The high citation count of this article indicates that discussions of religion, self-regulation, and self-control are important foundations linking positive character to health, social behavior, and well-being. Publications by Proctor et al. (2011), Quinlan et al. (2012), Park (2004), and Lavy (2020) also achieved strong influence. These works primarily address character strengths development, positive education, and strengths-based interventions, demonstrating that the influential literature is not only theoretical but also application-oriented.

This finding aligns with bibliometric studies of psychological well-being, which indicate that the most highly cited publications are generally conceptual works, measurement development, and studies that provide a foundation for subsequent research (Yiğit & Çakmak, 2024). However, the cumulative number of citations is influenced by the publication's age. Therefore, the high normalized citation values for Soto et al. (2022) and Lavy (2020) indicate that newer publications can gain scientific attention quickly despite having shorter citation accumulation periods.

At the author level, Huber A, Höfer S, Höge T, and Strecker C have the highest local h-index. All four are involved in a consistent collaborative network on the use of signature character strengths, well-being, work engagement, and health (Hausler et al., 2017; Huber et al., 2020, 2021; Kachel et al., 2020). Meanwhile, Lavy S has the highest total citations, while Cowden RG obtained the highest m-index. These differences confirm that cumulative influence, consistency of cited publications, and speed of impact development are distinct dimensions. Because these are local impact indicators, the results reflect the authors' influence within the dataset rather than their overall scientific reputation.

The findings indicate that the study's conceptual structure centers on character strengths, well-being, positive psychology, and mental health. The high centrality of character strengths and well-being confirms their role as key links between topics. Meanwhile, the dominance of the terms "human," "female," "adult," and "questionnaire" reflects population characteristics and indexing methods rather than core theoretical concepts. The thematic map reveals life satisfaction as a key theme connecting optimism, anxiety, and age group. The factorial analysis also places well-being, gratitude, positive psychology, and character strengths near the center of the map, indicating conceptual closeness. Overall, this field integrates character strengths, well-being, mental health, and adaptive functioning.

Implications for Practice

The findings of this study can serve as a basis for educational institutions and counseling services to develop character strengths-based service models to improve psychological well-being. Furthermore, the findings on influential themes, authors, and journals can serve as a scientific resource for practitioners in designing service models that align with research on character strengths and psychological well-being.

CONCLUSION

This study charts the development of research on character strengths and psychological well-being based on Scopus publications from 2004 to June 2026. Results indicate that the field has developed gradually, with the largest contributions coming from the United States, while international collaborations are increasingly involving more countries. The most prolific journal is

Frontiers in Psychology, which publishes a wide range of articles. Author analysis indicates the presence of a consistent and influential research group, while citation analysis confirms the importance of foundational works on character strengths, well-being, and positive psychology interventions. Keyword mapping reveals that character strengths, well-being, positive psychology, mental health, life satisfaction, gratitude, resilience, and social support are key themes. The conceptual structure of the field links the development of positive potential with mental health and adaptive functioning. Overall, this study confirms that character strengths are an important framework for understanding and improving psychological well-being and provides a foundation for developing research and more contextualized counseling services.

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