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INITIATIVE: A BIBLIOMETRIC ANALYSIS BASED ON CHINALiu Liming¹, Noor Raihani Zainol^{2*}, Naresh Kumar A/L Samy³, Julia Tan Yin Yin⁴

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This work is licensed under [CC BY 4.0](https://creativecommons.org/licenses/by/4.0/)**Abstract:**

As the world's largest provider of higher education, China offers a valuable perspective for understanding international trends in cultivating college student initiative. This study conducts a comprehensive bibliometric analysis of journal articles on Chinese college students' initiative published between 1995 and 2024 in the China National Knowledge Infrastructure (CNKI) database. By employing quantitative and visualization approaches, the research identifies evolving publication trends, key topics, disciplinary patterns, influential authors, institutions, and highly cited works. Results show that scholarly attention to college students' initiative in China has grown in tandem with educational reforms emphasizing autonomy, self-regulation, and active engagement—paralleling similar value shifts and research advances globally. The analysis traces a progression from early theoretical frameworks to diversified empirical investigations into psychological, motivational, technological, and environmental factors guiding initiative development. Furthermore, the study highlights both achievements and gaps—specifically a prior lack of systematic, large-scale quantitative reviews in this field. By focusing on China's experience as a case study, this research provides insights into the theoretical and practical dynamics shaping student initiative worldwide, offering data-driven implications valuable to educators, policymakers, and researchers in both national and international contexts.

Keywords:

Bibliometric Analysis, China, CNKI, Initiative, Trends, University Students

Introduction

As China's higher education reform has increasingly prioritized cultivating students' autonomy and self-growth, research on college students' learning initiative has emerged as a core issue of academic and practical concern over the past three decades. Following the implementation of the "quality education" policy in 1994(MOE, 1994), a significant body of research has been published by Chinese scholars, exploring the factors, effects, and improvement strategies of college students' learning initiative.

Notwithstanding the substantial advancements witnessed in theoretical and empirical research, a paucity of large-scale and systematic bibliometric reviews persists, hindering the assessment of prevailing patterns, research hotspots, and development trends within this domain. To address this lacuna, the present study undertook a thorough bibliometric analysis of journal articles pertinent to Chinese college students' learning initiative, published between 1995 and 2024. The analysis was conducted using data from the China National Knowledge Infrastructure (CNKI) database. By identifying influential topics, major contributors, key journals, and citation patterns in the corresponding research in China, this work sheds light on the development of academic research and provides valuable references for future research and educational policy development in this important field worldwide.

Research Scope

This study specifically focuses on journal articles published between 1995 and 2024 that address the topic of college students' initiative in China. Journal articles are chosen as the exclusive literature sample because they represent the primary medium for academic communication, subject to rigorous peer review, and generally possess high scholarly quality. Such articles reliably reflect mainstream research trends and core findings within the field. The China National Knowledge Infrastructure (CNKI), as the most authoritative academic database in China, indexes a wide range of journals including core Chinese journals, CSSCI-listed journals, and general academic journals, all recognized as the dominant realm for Chinese academic research (Jiang, 2020; Wu Meiqun, 2024). CNKI's timely updates and well-structured database facilitate large-scale bibliometric mining and visualization analyses. This study employs a fuzzy topic search using the keyword “大学生主动性” (“college students' initiative”), strictly limited to journal articles. Other document types such as dissertations, conference papers, newspapers, yearbooks, patents, and reports are excluded. This limitation ensures homogeneity of the sample and enhances the scientific validity and representativeness of the data analysis (Desong, 2005). Moreover, journal publications, due to their methodological rigor and research depth, provide a solid foundation for accurately capturing disciplinary hotspots, theoretical developments, and shifts in research methodologies. By restricting the sample to journal articles, this research effectively concentrates on high-impact and highly cited scholarly works, enabling systematic identification of research trends, thematic evolution, disciplinary distribution, and major contributors in terms of authors and institutions within the field of Chinese college students' initiative. This focus also enhances the practical applicability of conclusions and policy implications. The long-term accumulation

and standardized publication process of journal literature further support reliable comparative and dynamic analyses over different periods.

Research Objectives

The main goal of this study is to systematically examine the academic dynamics of research on college student initiative in China, focusing on trends in college student initiative research, influential authors, popular research topics, and major journals and institutions that publish relevant papers. This study aims to provide an in-depth understanding of the current state of research on college students' initiative. This research specifically achieved the following objectives:

1. To analyze data from journal articles published between 1995 and 2024.
2. To identify the main topics of initiative research among Chinese university students.
3. To determine the characteristics of the research level of Chinese college students' initiative.
4. To identify the main disciplinary layouts of college student initiative research in China.
5. To identify the 10 journals that publish the most papers on university student initiative research in China.
6. To identify the 10 institutions that have published the most papers on university student initiative research in China.
7. To identify the top 10 authors who have published research papers on university student initiative in China.
8. To identify the top 10 most cited research papers in the field of university student initiative in China.
9. To identify the top 10 most downloaded articles in the field of university student activism in China.
10. To select the top 10 fund projects that finance Chinese college students' initiative research.
11. To analyze the source categories of research papers on college students' initiative in China.

By achieving the above goals, this study aims to gain a deeper understanding of the current status of research on college students' initiative in China, provide valuable resources for researchers on college students' initiative, and help scholars conduct more in-depth research.

Literature Review

Since the end of the 20th century, college students' initiative and autonomous growth, as an important topic of educational reform, has become an area of great concern for scholars and policymakers at home and abroad. Internationally, student initiative is usually closely related to self-regulated learning, independent learning ability, mental health and social adaptation, reflecting the basic direction of comprehensively improving students' individual quality and core competitiveness. The World Health Organization (WHO) launched the Global Mental Health Promotion Program for University Students (WMH-ICS), which emphasizes prevention and early intervention to help students build positive mental energy and active learning attitudes; and the Organization for Economic Co-operation and Development (OECD) has pointed out in the PISA assessment and related policy documents that enhancing school autonomy and student learning autonomy is the key to improving academic effectiveness and fostering innovative talents. Self-regulated learning models have been shown to improve student autonomy, fostering a desire for independent learning and knowledge acquisition (Hermuttaqien, 2024). The Organization for Economic Co-operation and Development (OECD), in its PISA assessment and related policy documents, states that increasing school

autonomy and student learning autonomy is key to improving academic effectiveness and fostering innovation (Deci & Ryan, 2013). The European Union promotes transnational educational cooperation and competence-based development through programs such as the Bologna Process and Erasmus+, which focuses on stimulating student initiative and lifelong learning (Wöbmann et al., 2007). Developed countries such as Germany, the United Kingdom and Australia have also introduced policies to promote student autonomy and innovation in an attempt to enhance students' competitiveness in the global knowledge economy.

Since the 1990s, with the promotion of the concept of quality education, domestic studies have gradually formed a multidimensional research system centered on learning motivation, autonomous learning behavior, learning commitment and psychological adaptation (Yin, 2020). Some studies have used questionnaires, experiments and interviews to reveal the important role of college students' initiative in promoting learning depth, improving academic adaptation and maintaining psychological health (Xie, 2013). It was found that college students' learning engagement is not only a reflection of their motivation, but also an important predictor of academic adaptability and psychological health. Learning initiative is considered a key factor in promoting students' self-efficacy, self-confidence in choosing a career, and social adaptability (Yin, 2020). In addition, with the wide application of online education and information technology, the study of online learning engagement has become a hotspot, exploring the effects of cognitive beliefs, self-regulation ability, and the learning environment on students' initiative. The online learning environment, including social presence and interaction, significantly influences engagement. Enhanced social presence can mediate the relationship between self-regulation and learning engagement (Miao & Ma, 2022).

Stage by stage, the research on college students' initiative in China has experienced the development from theoretical exploration, empirical research to comprehensive analysis from a multidimensional perspective. In the early stage, it focused on the study of the association between students' learning motivation, personality traits and adaptive behaviors, in the middle stage, it expanded to the promotion of initiative by the educational environment and teaching mode, and in the recent years, it has paid more attention to the mental health support, online self-regulated learning and cross-disciplinary integration perspectives. The research on learning initiative of Chinese college students has made significant progress and has shifted from theoretical exploration to empirical research and comprehensive analysis. Initial research focused on the interaction between learning motivation, personality traits and adaptive behavior, emphasizing how these factors affect students' engagement and academic success. As the research deepens, the focus turns to the role of educational environment and teaching methods in cultivating students' learning initiative, emphasizing the importance of a supportive environment in improving learning motivation and participation. The theoretical level integrates the classic theories of personality psychology, positive psychology and education. For example, self-determination theory reveals the essential relationship between autonomy and intrinsic motivation (Deci & Ryan, 2013). Teachers provide autonomy support, such as providing choices and encouraging students to take the initiative to learn, which can enhance students' intrinsic motivation and participation (Siacor & Ng, 2024). Understanding students' psychological needs helps to create a supportive learning environment and establish a positive teacher-student relationship (Dalimunthe et al., 2024). A positive classroom atmosphere characterized by respect and inclusion is essential for student participation (Firman, 2024). A good educational environment includes clear educational goals, modern equipment and a democratic management model. These factors work together to enhance students' learning

motivation (Kompaneeva, 2024). Social support from peers and family members and the acquisition of various resources significantly affect learning motivation (Bakhrudin All Habsy, 2023). Opportunities for active participation and self-directed learning can further enhance students' motivation (Bakhrudin All Habsy, 2023).

In general, domestic and international research on active learning and independent growth of college students presents a common focus on the interaction between students' psychological state, behavioral input and environment, and revolves around how to build a supportive learning environment, stimulate learning motivation and promote psychological health to reach the goal of students' comprehensive development. In the context of the new era, combining new technology and international experience to promote the systematization and precision of college students' initiative cultivation has become an important trend in research and practice. Positive interactions create a sense of belonging, enhancing engagement and accountability among peers (Firman, 2024).

Although the existing research results are fruitful, especially at the level of theoretical development and empirical exploration, important progress has been made, but the review analysis on the field of college students' initiative lacks a systematic and large data scale analysis from a bibliometric perspective. This research method based on quantitative search and visualization techniques can reveal the development of the discipline, the evolution of research hotspots and academic cooperation networks, which can help to grasp the overall picture and trends of the research. At present, the relevant fields are still insufficient in the use of bibliometric tools for large-scale data analysis, and there is an urgent need to supplement the detailed and scientific bibliometric review. The field of Human Resource Big Data (HRBD) has seen transformative changes with the advent of "Internet Plus," yet there remains a gap in bibliometric and visualization research. The use of these tools has provided insights into trends and influential works, but further exploration is needed to fully leverage their capabilities (Liu et al., 2024). Therefore, this paper aims to systematically review the literature on university student initiative research in China from 1995 to 2024 through a bibliometric perspective, combining multidimensional data such as keyword co-occurrence, theme evolution, and institutional and author co-operation networks, in an attempt to reveal the research hotspots, disciplinary structure, and development trends in this field. This not only helps to fill the gap of the current review studies and expand the theoretical and methodological boundaries of initiative research, but also provides a scientific basis and practical guidance for promoting the innovation of talent cultivation mode and the formulation of related policies in colleges and universities, which is of great theoretical value and practical significance.

Research Questions

1. What is the tendency of research on Chinese college students' initiative by year of publication?
2. What are the foremost research topics?
3. What are the characteristics of research gradations?
4. What is the distribution of major disciplines?
5. What are the top ten journals with the largest number of published research papers?
6. What are the top ten organizations in terms of the number of publications?
7. Who are the top 10 authors in terms of number of publications?
8. Which 10 research papers have been cited the most?
9. Which are the top 10 research papers in terms of downloads?
10. Which are the top 10 projects that received the most research grants?

11. What are the source categories of research papers?

Research Methodology

This study uses bibliometrics to comprehensively reveal the status and development trend of research on college students' initiative in China. As a method that comprehensively applies mathematics, statistics and bibliographic bibliography, bibliometrics can evaluate disciplinary research results, identify research hotspots, track the evolution of disciplines, and reveal the structural characteristics of academic cooperation networks through quantitative analysis of academic literature(Xie, 2013). All data in this study come from the China National Knowledge Infrastructure (CNKI) database.

The literature search uses the keyword "college student initiative" for fuzzy search, and strictly limits the document type to journal articles to ensure the academic quality and research representativeness of the included documents. The CNKI database has a wide range of coverage, covering important documents in Chinese core journals and related disciplines, providing solid data support for comprehensively reflecting the research in the field of college students' initiative in my country (MiaoZikun, 2021). The research time range is from 1995 to 2024, and the starting year is based on the formal proposal of the concept of "quality education" in 1994 in China, emphasizing the cultivation of student autonomy, and related research has been gradually carried out since then. The data is relatively complete as of 2024, and some results that have not been fully published in 2025 are excluded to ensure the scientific and stability of the analysis.

The bibliometric analysis is executed by the statistical analysis function of CNKI with the assistance of visualization tools. Employing quantitative and visualization approaches, the research identifies evolving publication trends, key topics, disciplinary patterns, influential authors, institutions, and highly cited works. to objectively and comprehensively present the academic landscape and development trends in the field of Chinese college students' initiative, and provide empirical evidence for subsequent theoretical deepening and practical guidance.

Data Collection Strategy

This study is the literature research on college students' initiative in China, and the search source is CNKI database, the search mode is advanced search, the search language is Chinese, the document category is "academic journals", and the source category is "all". The search condition "title" is "college students' initiative". Since quality education was formally proposed in the second half of 1994, the time frame was set from 1995 to 2024. A total of 992 sample articles were retrieved.

Table 1: Select Standard Search Strings

Criterion	Bring Into	Excluding
Language	Chinese	Non-Chinese
Schedule	1995-2024	<1995, 2025>
Document Type	Journal (Article)	Meeting, Book Review
Publication Stage	Ultimately	-
Source Category	All the corresponding literature included in CNKI	-

Source: By Author

Data Analysis

The data analysis in this study is anchored in bibliometric methods, utilizing quantitative statistics and visualization techniques to systematically reveal the fundamental characteristics and development trends of research on Chinese college students' initiative. First, relevant journal articles published between 1995 and 2024 were retrieved from the China National Knowledge Infrastructure (CNKI) database using the topic "college students' initiative," ensuring both data authority and field representativeness. During data processing, retrieved records were screened, cleaned, and standardized to remove duplicates and unrelated entries, thereby guaranteeing the scientific rigor and accuracy of the analysis. The bibliometric approach provide objective, data-driven insights into research trends, overcoming limitations of traditional literature reviews and offering valuable guidance for future studies in their respective domains(Zhang Yong, 2020).

Throughout the analytical process, descriptive statistical methods are primarily employed to outline the annual publication trends and to map the distribution of prolific journals, key authors, and major contributing institutions. CNKI's in-built visualization analysis tools are primarily utilized for the analysis of keyword frequency and the identification of highly cited publications. This process serves to underscore research hotspots, core thematic developments, and the most influential works within the field. Key metrics include the number of publications, citation counts, and the identification of prolific journals and authors, which help map the research landscape(Dong et al., 2024). These tools also facilitate the visualization of data, making complex information more accessible and interpretable (Aorigele & Narantsogt, 2022).

Additionally, attention is given to indicators such as disciplinary distribution, citation frequency, and journal impact, allowing for a comprehensive evaluation of academic contributions and knowledge accumulation in this domain. Through rigorous and systematic bibliometric analysis, this research aims to deliver robust empirical support and insights for the future development and decision-making in the field. Bibliometric analysis reveals the distribution of research across different disciplines, showcasing areas of high activity and collaboration(Donny Febriansyah, 2024). Citation analysis serves as a measure of research impact, with studies identifying prolific authors and influential publications(Maharani, 2023).

Findings and Conclusion

What Is the Tendency of Research on Chinese University Students' Initiative by Year of Publication?

992 journal papers were retrieved through CNKI, and the annual publication status of the 992 papers over 30 years is shown in Figure 1.

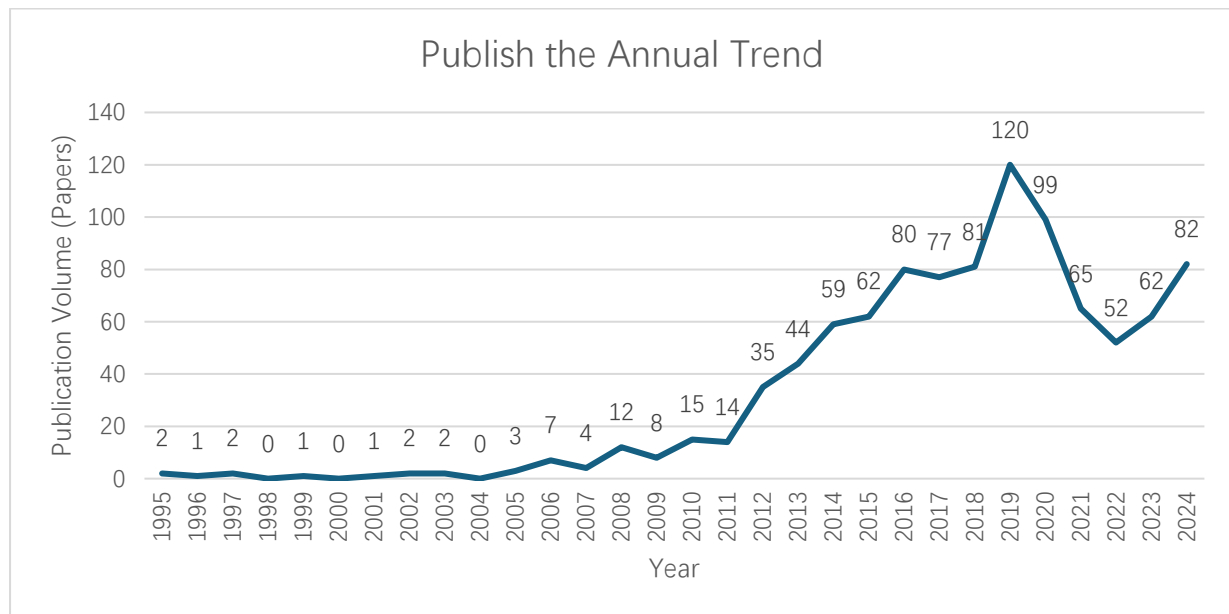


Figure1: Graph Of Overall Trends in Published Literature

Source: CNKI

The annual publication trends of research on Chinese college students' initiative from 1995 to 2024 reveal distinct development stages and key turning points. In the initial stage (1995-2005), publications were sporadic, with an average of less than 2 papers per year, reflecting limited academic attention to the topic. A turning point occurred in 2006, with annual output rising to 7 papers, which may have been influenced by China's 2006 National Medium- and Long-Term Education Reform Plan, which emphasized student autonomy. In the exponential growth stage (2012-2019), the number of papers surged from 35 in 2012 to 120 in 2019, peaking in 2019, a 24-fold increase from 2005. This coincides with policy milestones such as the "Mass Entrepreneurship and Innovation" initiative (2014) and the "Double First-Class" university construction plan (2015), which prioritized the development of students' initiative. However, after 2020, the number of papers declined (e.g., 52 in 2022), which may be due to the disruption of academic activities caused by the COVID-19 pandemic. The number of papers rebounded in 2023-2024 (62 and 82, respectively), indicating a renewed interest in this field, which may be related to digital education reforms and post-pandemic economic recovery. It is worth noting that the number of papers reached a stable level from 2016 to 2018 (77-81/year), indicating the maturation of basic research topics such as "proactive personality" (93 papers) and "learning initiative" (35 papers).

These data highlight policy-driven research dynamics and a shift from theoretical exploration (before 2010) to empirical mediation models (e.g., the self-efficacy path, cited 223 times in Wang et al., 2016). Future trends may emphasize interdisciplinary integration (e.g., the application of artificial intelligence in proactive behaviour analysis) and applied research to address post-pandemic educational challenges.

What Are the Foremost Research Topics?

Table 2: Topic Distribution

No.	Topic	Publication Count
1	Proactive Personality	93
2	Impulsivity	72
3	University Students	52
4	Students	49
5	College Students	38
6	Learning Proactivity	35
7	Active Learning	33
8	Mediation Effects	31
9	Proactive Personality Traits	29
10	Among University	24
11	Findings	22
12	Personal Growth Initiative	17
13	Proactive Behaviour	16
14	Student	15
15	Entrepreneurial Intention	15
16	Undergraduate Students	14
17	Career Adaptability	13
18	Social Science	13
19	Initiative	12
20	Athletes	11

Source: CNKI

Table 2 lists the 20 most occurring topics in the literature. The analysis of topic distribution in Chinese university students' proactive behaviour research reveals a clear hierarchy of research priorities and evolving academic interests. As evidenced by the data, proactive personality emerges as the dominant research focus, accounting for 15.4% of all publications (93 papers), which significantly surpasses other topics in both quantity and research attention. This strong emphasis on personality traits reflects the field's foundational approach to understanding the psychological determinants of proactive behaviour. The substantial body of work on impulsivity (72 papers, 11.9%) presents an interesting counterpoint, suggesting researchers' parallel interest in factors that may inhibit or compete with proactive tendencies.

The cluster of student-focused topics (university students, students, and college students collectively comprising 22.9% of research) demonstrates the field's consistent attention to contextualizing findings within the specific developmental stage of university life. Learning proactivity (35 papers) and active learning (33 papers) represent important applied dimensions of the research, together forming 11.3% of the literature. This suggests a healthy balance

between theoretical investigations of proactive dispositions and practical examinations of their manifestation in educational settings.

Methodologically, the prominence of mediation effects research (31 papers, 5.1%) indicates the field's maturation beyond simple correlational studies to more sophisticated analyses of psychological mechanisms. This trend is further supported by the emergence of career adaptability (13 papers) and entrepreneurial intention (15 papers) as significant topics, reflecting both the applied value of the research and its responsiveness to national education policies emphasizing career readiness and innovation.

The distribution also reveals several noteworthy gaps and opportunities. While personal growth initiative appears in 17 papers (2.8%), its relatively modest representation suggests room for expansion in research on developmental trajectories of proactive behaviour. Similarly, the limited attention to specific student populations (e.g., only 11 papers on athletes) points to potential areas for future investigation. The concentration of research in psychological and educational domains is evident, with minimal crossover into other disciplines, indicating opportunities for more interdisciplinary work.

This topic distribution reflects the field's evolution from early conceptual work to more nuanced empirical studies examining mediators, moderators, and boundary conditions of proactive behaviour. The pattern suggests researchers are increasingly moving beyond simple demonstrations of proactive personality's benefits to understanding how, when, and for whom these benefits emerge - a sign of the field's growing theoretical and methodological.

What Are the Characteristics of Research Gradations?

Table3: Table Of Number of Publications at Research Gradations

No.	Research Gradations	Publication Count
1	Basic Research (Social Science)	142
2	Industry Guidance (Social Science)	27
3	Engineering Technology	10
4	Higher Education	9
5	Career Guidance (Social Science)	5
6	Basic and Applied Basic Research	4
7	Policy Research (Social Science)	4
8	Basic and Secondary Vocational Education	2
9	Standards and Quality Control (Natural Science)	1
10	Policy Research (Natural Science)	1

Source: CNKI

Table 3 exhibits the number of papers published at the level of research related to this study. The distribution of research levels reveals a striking dominance of basic research in social science, accounting for 69.3% (142 papers) of all publications. This overwhelming emphasis on theoretical investigations suggests the field is still in a foundational stage, with scholars primarily focused on conceptual development and fundamental understanding of proactive behavior mechanisms. The substantial lead of basic research over other categories indicates that while the theoretical framework is being vigorously developed, there remains significant

untapped potential for applied research and practical implementations. Industry guidance studies represent the second largest category at 13.2% (27 papers), demonstrating some effort to bridge theory and practice, particularly in social science applications. However, the relatively small proportion suggests that translating theoretical insights into practical industry applications remains underdeveloped. The presence of engineering technology research (4.9%, 10 papers) and higher education studies (4.4%, 9 papers) shows emerging interdisciplinary connections, though these areas clearly require further exploration. The minimal representation of policy research (combined 2.5%) and career guidance studies (2.4%) highlights significant gaps in research that could directly inform educational policy and student counselling practices. Particularly noteworthy is the near absence of natural science approaches (totalling just 1%), indicating that physiological, neurological, or other natural science perspectives on proactive behaviour have been largely overlooked in the current literature.

This distribution pattern suggests several important implications for future research directions. First, there is a pressing need for more applied studies that can translate theoretical knowledge into practical interventions and policy recommendations. Second, the field would benefit from greater interdisciplinary collaboration, particularly with natural science disciplines that could offer novel methodologies and perspectives. Finally, the minimal attention to policy-related research represents a missed opportunity to influence educational reforms and institutional practices that could foster student proactivity.

What Is the Distribution of Major Disciplines?

Table 4: Disciplines Distribution

No.	Discipline	Publication Count
1	Education	147
2	Psychology	34
3	Linguistics	7
4	Sports Science	7
5	Sociology	5
6	Business Administration	4
7	Basic Medicine	3
8	Political Science	2
9	Public Security	1
10	Labor Economics	1

Source: CNKI

Table 4 shows the number of documents related to disciplines in the research literature on college students' initiative. The analysis of the disciplinary distribution shows a striking feature of the academic field differentiation in the research on Chinese college students' initiative. Education research dominates the field, accounting for nearly three-quarters (72.1%) of all publications, which reflects the strong educational orientation of the research on college students' initiative in the context of Chinese higher education. This overwhelming focus is consistent with the national education policy that emphasizes student-centred learning and quality education reform. Psychology (16.7%), although important but secondary, complements this educational perspective by providing individual-level analysis of personality traits, motivations, and cognitive processes behind proactive behaviours. Together, these two

disciplines account for 88.8% of the research output, building a solid but potentially limited theoretical foundation for understanding students' initiative. Beyond these two dominant disciplines, the research fields show sparse interdisciplinary interactions. Linguistics and sports science each account for 3.4% of the publications, suggesting that they represent specialized niche areas rather than comprehensive research streams. The very low proportions of sociology (2.5%) and business administration (2.0%) are particularly noteworthy, as these disciplines can provide valuable insights into the social and organizational dimensions of initiative. The near absence of natural science perspectives (only 1.5% in basic medicine) represents a major missed opportunity to explore the biological and neurological underpinnings of proactive tendencies. This disciplinary concentration raises important questions about potential research blind spots. An overemphasis on education and psychology could result in an overreliance on survey-based approaches and classroom-focused interventions, while neglecting the broader social, economic, and biological factors that influence student proactiveness. The paucity of research in political science (1.0%) and labour economics (0.5%) is particularly concerning given the potential links between proactive behaviour and career outcomes or policy implementation.

The current distribution suggests several paths for future development. First, the potential for greater interdisciplinary collaboration is clear, especially in areas such as neuroscience, which can offer novel methodological approaches. Second, greater collaboration with applied disciplines such as business and public policy could enhance the practical relevance of research findings. Finally, the development of specialized subfields (e.g., proactive behaviour in sports or language learning) could enrich the overall theoretical framework while maintaining links to core educational and psychological foundations.

What Are the Top Ten Journals with The Largest Number of Published Research Papers?

Table5: Journal Distribution

No.	Journal Name	Publication Count
1	Chinese Journal of Clinical Psychology	7
2	China Journal of Health Psychology	7
3	Psychological Development and Education	7
4	Campus Psychology	5
5	Psychology Monthly	5
6	China Adult Education	5
7	Education Teaching Forum	3
8	Science & Education Insights	3
9	Health Vocational Education	3
10	Psychological Science	2

Source: CNKI

Table 5 presents the top 10 journals with the highest number of published articles and the number of related literatures published in studies on university students' initiative. The journal distribution analysis reveals a concentrated but illuminating pattern of dissemination of research on Chinese university students' initiative. Three psychology-focused journals—Chinese Journal of Clinical Psychology, Chinese Journal of Health Psychology, and Psychological Development and Education—together dominate the publishing landscape, each

accounting for 14.6% of the total output (seven papers each). The leading position of these three journals highlights the strong psychological orientation of research on proactive behaviour, especially in clinical and developmental contexts. The balanced distribution of these three journals suggests a balanced representation of research content across different psychological sub-disciplines that study student initiative. The second tier of journals (Campus Psychology, Psychological Monthly, and China Adult Education, with five publications each) each accounted for 10.4% of the share, reflecting the bridge between psychological research and educational practice. Notably, the presence of China Adult Education indicates that there is some academic attention to proactive behaviour in lifelong learning contexts, although this is still within the framework of higher education. The remaining journals (6.3% and below) represent more specialized or interdisciplinary publication outlets, while the core psychology journal Psychological Science unexpectedly ranks last with only two publications (4.2%).

Several key observations can be drawn from this distribution: First, the overwhelming dominance of psychology journals (accounting for more than 60% of publications) reinforces the field's strong theoretical foundation in psychological concepts, but at the same time may limit interdisciplinary perspectives. Second, the absence of top-ranked comprehensive educational research journals suggests that proactive behaviour research has not yet become mainstream in the broader educational research field. Third, the concentration of articles in Chinese-language professional journals may indicate that this research is in a developmental stage and has not yet made it to an international platform. The current distribution also suggests that there is an opportunity for future research to target more influential or diverse publishing venues to broaden the discussion about student proactive behaviour.

What Are the Top Ten Organisations in Terms of The Number of Publications?

Table 6: Statistics Of the Top 10 Organisations Published Relevant Papers

No.	Institution Name	Publication Count
1	Changzhou University	6
2	Jiangxi Normal University	6
3	Beijing Normal University	5
4	Inner Mongolia Normal University	4
5	Lüliang University	4
6	Soochow University	4
7	Shandong University of Traditional Chinese Medicine	3
8	Shandong Normal University	3
9	Nanjing Normal University	3
10	Shanxi Medical University	3

Source: CNKI

Table 6 presents the top 10 issuing organizations for research on Chinese university students' initiative. The analysis of institutional contributions to research on Chinese university students' proactive behaviour reveals a distinctive academic landscape characterized by several key features. Normal universities, which specialize in teacher education, collectively account for over half (54.2%) of the total publications, with Jiangxi Normal University and Beijing Normal University emerging as leading contributors. This pattern strongly reflects the pedagogical orientation of proactive behaviour research in China, where teacher-training institutions naturally take the lead in educational psychology studies. The equal prominence

of Changzhou University, a comprehensive institution, alongside these normal universities presents an interesting counterpoint, suggesting that some non-specialist universities are also developing strong research capabilities in this domain.

Geographically, the research output shows a clear concentration in China's more developed eastern and central regions, with institutions from Jiangsu, Shandong, and Shanxi provinces being particularly active. While Inner Mongolia Normal University's presence indicates some research decentralization, the overall distribution still reflects the regional disparities in China's higher education resources. The absence of top-tier comprehensive universities like Tsinghua or Peking University from the list is noteworthy, possibly indicating that proactive behaviour research is currently positioned as more of an applied educational field rather than a theoretical priority at China's most research-intensive institutions.

The institutional distribution forms three distinct tiers, with Changzhou University and Jiangxi Normal University at the top (12.5% each), followed by a group of four institutions contributing 8.3-10.4% of publications, and finally six universities each producing 6.3% of the output. This graduated pattern suggests a relatively balanced but potentially fragmented research ecosystem, where no single institution dominates but several have established strong research programs. The predominance of normal universities may foster deep specialization in educational applications of proactive behaviour theory, but could also limit the infusion of interdisciplinary perspectives that might come from greater participation by comprehensive universities or institutions with stronger natural science or business programs.

These institutional patterns have important implications for the future development of proactive behaviour research in China. While the current concentration in normal universities ensures strong pedagogical relevance, broadening participation to include more comprehensive universities could enrich the theoretical and methodological diversity of the field. Similarly, encouraging greater involvement from institutions in western and southern regions could help balance the current geographic concentration and bring regional educational perspectives to bear on this important area of study. The relatively even distribution among top contributors suggests opportunities for enhanced collaboration between institutions to create more cohesive research networks and avoid duplication of effort in this growing field of inquiry.

*Who Are the Top 10 Authors in Terms of Number of Publications?***Table7: Statistical Table of The Top 10 Authors of Relevant Research Publications**

No.	Author Name	Publication Count
1	Ye Baojuan	5
2	Yang Qiang	4
3	Wu Chunxia	3
4	Shen Xueping	3
5	Zhou Jiquan	2
6	Xu Changqing	2
7	Zhang Xiaoling	2
8	Lei Hui	2
9	Cai Yujie	2
10	Tan Jia	2

Source: CNKI

Table7 shows the top 10 authors of relevant research publications. The author distribution analysis reveals a moderately concentrated research landscape in the field of Chinese university students' proactive behaviour. Ye Baojuan emerges as the most prolific contributor with 5 publications (16.7% of total output), establishing herself as a leading scholar in this domain. Following closely is Yang Qiang with 4 publications (13.3%), demonstrating consistent research productivity. The distribution shows a clear stratification, with two authors (Wu Chunxia and Shen Xueping) each contributing 3 papers (10.0%), and six authors tied at 2 publications each (6.7%). This pattern suggests the field is neither dominated by a single scholar nor perfectly evenly distributed, but rather features a small group of active researchers leading the intellectual output. The presence of multiple authors with identical publication counts (particularly the six authors at 2 papers each) indicates healthy participation from emerging scholars alongside established contributors. Notably, the top four authors collectively account for 50% of the publications, highlighting their significant influence in shaping the research agenda. The author distribution analysis reveals a moderately concentrated research landscape in the area of Chinese university students' proactive behaviour. Ye Baojuan emerges as the most prolific contributor with 5 publications (16.7% of the total output), establishing herself as a leading scholar in the field. Yang Qiang follows closely with 4 publications (13.3%), demonstrating consistent research productivity. The distribution shows a clear stratification, with two authors (Wu Chunxia and Shen Xueping) contributing 3 publications each (10.0%), and six authors tied with 2 publications each (6.7%). This pattern suggests that the field is neither dominated by a single scholar nor perfectly evenly distributed, but rather features a small group of active researchers leading the intellectual output. The presence of multiple authors with identical publication counts (especially the six authors with 2 publications each) indicates a healthy participation of emerging scholars alongside established contributors. Notably, the top four authors together account for 50% of the publications, highlighting their significant influence in shaping the research agenda.

Several observations emerge from this distribution: First, the absence of any author with more than 5 publications suggests the field remains open for new contributors to make substantial impacts. Second, the relatively small gap between the most and least productive authors in this cohort (5 vs 2 publications) indicates a collaborative rather than hierarchical research culture.

Third, the predominance of female authors among top contributors (including Ye Baojuan, Wu Chunxia, and Shen Xueping) reflects positive gender representation in this academic specialty. The distribution implies that while a core group of scholars has established research programs in student proactive behaviour, the field maintains opportunities for new voices and perspectives. The clustering of publication counts (particularly at the 2-3 paper level) may suggest collaborative research teams or mentor-mentee relationships among authors. Future research could benefit from tracking how these authorship patterns evolve and whether they lead to distinct schools of thought within the field. The following observations can be derived from the distribution: Firstly, the paucity of authors with a greater number of publications indicates that the field remains accessible to new contributors, who may be able to make substantial impacts. Secondly, the relatively narrow gap between the most and least productive authors in this cohort (5 vs. 2 publications) suggests the presence of a collaborative, rather than hierarchical, research culture. Thirdly, the preponderance of female authors among the most prolific contributors (including Ye Baojuan, Wu Chunxia, and Shen Xueping) is indicative of a favourable gender representation within this academic specialty. The distribution suggests that while a core group of scholars has established research programs in student proactive behaviour, the field also provides opportunities for new voices and perspectives. The aggregation of publication counts, particularly at the 2-3 paper level, may indicate collaborative research teams or mentor-mentee relationships among authors. Future research could benefit from tracking how these authorship patterns evolve and whether they lead to distinct schools of thought within the field.

Which 10 Research Papers Have Been Cited the Most?

Table8: Top 10 Cited Papers on Related Topics

Rank	Citation Count	Author(s)	Title (English Translation)	Year
1	223	Wang Wei; Lei Li; Wang Xingchao; Qu Kejia;	The Impact of College Students' Proactive Personality on Academic Performance: The Mediating Roles of Academic Self-Efficacy and Learning Adaptation	2016
2	201	Ju Ruihua; Zhang Qingqing	The Relationship Between College Students' Proactive Personality, Career Decision-Making Self-Efficacy, and Career Exploration	2015
3	179	Li Xu; Hou Zhijin; Feng Man	The Relationship Among Parental Career Expectations, Proactive Personality, Career Adaptability and Career Decision-Making Difficulties in College Students	2013
4	158	Wu Jieqing et al.	The Relationship Between Proactive Personality and Career Adaptability in College Students: The Mediating Role of Achievement Motivation and Its Gender Differences	2016
5	152	Kuang Lei et al.	The Relationship Between College Students' Economic Confidence and Career Decision-Making Self-Efficacy: The Moderating Roles of Attribution and Proactive Personality	2011

6	149	Zang Yuli et al.	Development of a Learning Proactivity Measurement Tool for Medical and Related Major College Students	2006
7	89	Shen Xueping; Gu Xueying	The Relationship Between College Students' Proactive Personality and Career Decision-Making Difficulties: The Mediating Roles of Career Self-Efficacy and Career Calling	2018
8	89	Fang Xiaoting et al.	The Impact of Proactive Personality on College Students' Career Decision-Making Difficulties: The Mediating Roles of Career Exploration and Career Maturity	2017
9	87	Shen Xueping; Hu Shi	The Relationship Between College Students' Proactive Personality and Job Search Clarity: The Mediating and Moderating Roles of Career Calling	2015
10	78	Ma Na et al.	College Students' Proactive Personality and Academic Procrastination: The Mediating Role of Achievement Motivation and the Moderating Role of Future Time Perspective	2019

Source: CNKI

Table 8 shows the top 10 cited papers on related topics. Citation analysis reveals several important patterns among the most influential studies on proactivity among Chinese college students. The most cited study (223 citations) is Wang Wei's (2016) study, which establishes a foundational model for understanding how proactivity affects academic performance through self-efficacy and adaptive mechanisms. This reflects the field's strong interest in academic outcomes as a key indicator of the effectiveness of proactivity. The top five most cited articles (all with more than 150 citations) have in common a focus on mediation models, specifically how personality traits translate into measurable outcomes through psychological mechanisms such as self-efficacy (Wang Wei et al.) and achievement motivation (Wu Jieqing et al.).

Arranged chronologically, the data show enduring influence across research periods. While Kuang et al.'s (2011) study remains highly cited (152 citations), more recent studies such as Ma et al. (2019) have also demonstrated significant influence. This suggests the enduring nature of core concepts and the continued relevance of new research. Thematic analysis shows that there are three main research directions: 1) academic performance (exemplified by Professor Wang's leading research); 2) career development (represented by 6 of the top 10 papers); and 3) measurement tools (Professor Zang et al.'s 2006 tool development research). Notably, Shen Xueping made the top 10 twice (ranked 7th and 9th), demonstrating her expertise in career-related applications of proactive personality theory.

Several key observations can be made from this citation pattern. First, the dominance of mediation effect analyses (8 of 10 studies) highlights the maturity of the field, which has moved from simple correlational studies to more complex psychological models. Second, the strong representation of the career development topic suggests that there is a strong interest in how proactive behaviours translate into post-graduation outcomes among both academics and practitioners. Third, the continued presence of older studies (2006, 2011) in the citation

rankings suggests that certain foundational studies continue to shape current research directions. The high number of highly cited papers is concentrated in the period 2013-2016, which may represent a particularly fruitful period of theoretical development in the field.

Which Are the Top 10 Research Papers in Terms of Downloads?

Table 9: Top 10 Downloaded Papers

Rank	Download Count	Author(s)	Title (English Translation)	Year
1	10,178	Kuang Lei et al.	The Relationship Between College Students' Economic Confidence and Career Decision-Making Self-Efficacy: The Moderating Roles of Attribution and Proactive Personality	2013
2	9,064	Wang Wei; Lei Li; Wang Xingchao	The Impact of College Students' Proactive Personality on Academic Performance: The Mediating Roles of Academic Self-Efficacy and Learning Adaptation	2020
3	8,981	Wu Jieqing et al.	The Relationship Between Proactive Personality and Career Adaptability in College Students: The Mediating Role of Achievement Motivation and Its Gender Differences	2019
4	7,572	Qu Kejia; Ju Ruihua; Zhang Qingqing	The Relationship Between College Students' Proactive Personality, Career Decision-Making Self-Efficacy, and Career Exploration	2010
5	7,147	Li Xu; Hou Zhijin; Feng Man	The Relationship Among Parental Career Expectations, Proactive Personality, Career Adaptability and Career Decision-Making Difficulties in College Students	2014
6	4,911	Ye Baojuan et al.	The Relationship Between Proactive Personality and College Students' Career Maturity: A Moderated Mediation Model	2017
7	4,695	Shen Xueping; Gu Xueying	The Relationship Between College Students' Proactive Personality and Career Decision-Making Difficulties: The Mediating Roles of Career Self-Efficacy and Career Calling	2022
8	4,570	Fang Xiaoting et al.	The Impact of Proactive Personality on College Students' Career Decision-Making Difficulties: The Mediating Roles of Career Exploration and Career Maturity	2018
9	4,524	Yang Qiang et al.	The Influence of Parental Emotional Warmth on College Students' Career Adaptability: The Chain Mediating Roles of Proactive Personality and Core Self-Evaluations	2023
10	4,512	Li Xiaoran	The Relationship Between College Students' Proactive Social Media Use and Friendship	2020

Quality: The Mediating Roles of Online Positive Feedback and Social Self-Efficacy

Source: CNKI

Table 9 shows the 10 most downloaded papers. An analysis of the most downloaded research papers in the literature on proactiveness among Chinese college students reveals several clear patterns of interest among academics and practitioners. Career development research dominates the list, with seven of the top ten papers focusing on this topic, indicating a strong demand for research linking proactive personality traits to employment outcomes. The most downloaded paper, by Kuang Lei (2013), explores how economic confidence influences career decisions through proactive personality, with over 10,000 downloads, demonstrating the continued relevance of this research stream. Researchers consistently favor mediation or moderation frameworks to explain the psychological mechanisms linking traits to outcomes, such as Wang Wei's (2020) highly visited paper on academic achievement. The steady download counts of two older studies (2010-2014) and the rapid uptake of recent publications, such as Yang Qiang's (2023) paper, suggest that this is an evolving but stable area of research. This pattern is particularly indicative of China's educational focus on how to foster

student proactiveness and thereby promote career success, which remains critical. At the same time, this also shows the potential for future research in emerging areas such as the impact of digital behaviour and artificial intelligence on the development of initiative. Research that focuses on practicality, career orientation and has a clear theoretical framework seems to attract the highest level of participation from academics and professionals.

Which Are the Top 10 Projects That Received the Most Research Grants?

Table10: Top 10 Projects That Received the Most Research Grants

Rank	Funding Source	Publication Count
1	National Natural Science Foundation of China	14
2	National Social Science Foundation of China	9
3	Shanxi Education Science Planning Project	5
4	National Education Science Planning Project	4
5	Jiangsu Education Department Humanities Fund	4
6	MOE Humanities and Social Sciences Project	4
7	Jiangxi Education Science Planning Project	4
8	Jiangxi Education Department Science Project	2
9	Jiangxi Philosophy and Social Science Project	2
10	Guangdong Higher Education Reform Project	2

Source: CNKI

Table 10 presents the distribution of funding. The allocation of financial resources is indicative of a pronounced stratification in the support for research initiatives concerning college students. National funds predominate, with the National Natural Science Foundation (28.6%) and the National Social Science Foundation (18.4%) collectively providing support for nearly half of the publications. This outcome is indicative of the area's recognition as a national research priority. Provincial education projects, including those in Shanxi, Jiangsu, Jiangxi,

and Guangdong, account for 34.7% of funding, indicating a robust regional interest, particularly in the realm of education reform. The data reveal the presence of three funding tiers: 1) National Major Funds (47%), 2) Education Key Projects (42.9%), and 3) smaller regional projects (10.2%).

It is noteworthy that although the field is dominated by social sciences, funding in natural sciences remains the highest, indicating a growing interdisciplinary interest. The concentration of funding in the eastern provinces of Jiangsu, Jiangxi, and Guangdong reflects the distribution of China's educational resources, while Shanxi's strong performance (10.2%) indicates unexpected regional research capabilities. The dearth of corporate or international funding indicates that the government remains the primary driver of this academic research. This pattern suggests that research on college student initiative is highly aligned with national science priorities and regional educational needs. Furthermore, it reveals opportunities for diversifying future research funding sources and geographic representation.

What Are the Source Categories of Research Papers?

Table11: Source Categories of Research Papers

Rank	Source Type (English)	Publication Count
1	PKUC	48
2	CSSCI	34
3	CSCD	11
4	AMI	6
5	WJCI	4

Source: CNKI

Table 11 shows the Source Distribution of Publications. The analysis of publication sources reveals a highly concentrated distribution pattern in Chinese research on university students' proactive behavior. The data shows overwhelming dominance by domestic Chinese journal indices, with the Peking University Core (PKU Core) journals accounting for nearly half (47.1%) of all publications. This is closely followed by CSSCI (Chinese Social Sciences Citation Index) at 33.3%, indicating that over 80% of research output appears in these two major Chinese academic evaluation systems. The significant gap between these top two sources and others (CSCD at 10.8%, AMI 5.9%, WJCI 3.9%) demonstrates the field's strong orientation toward domestic social science research paradigms. The minimal presence of international indices (WJCI at just 3.9%) suggests limited global engagement or visibility of this research area outside China. An analysis of publication sources reveals a highly concentrated distribution pattern in Chinese research on university students' proactive behavior. The data indicates a preponderance of dominance by domestic Chinese journal indices, with the Peking University Core (PKU Core) journals accounting for nearly half (47.1%) of all publications. This is closely followed by CSSCI (Chinese Social Sciences Citation Index) at 33.3%, indicating that over 80% of research output appears in these two major Chinese academic evaluation systems. The substantial discrepancy between these leading sources and the rest (CSCD at 10.8%, AMI at 5.9%, and WJCI at 3.9%) underscores the field's pronounced adherence to domestic social science research frameworks. The

minimal presence of international indices (WJCI at just 3.9%) suggests limited global engagement or visibility of this research area outside China.

This distribution reflects several important characteristics of the field: First, it shows alignment with China's academic evaluation systems that prioritize PKU Core and CSSCI publications. Second, it indicates the research primarily serves domestic scholarly audiences rather than international academia. Third, the pattern suggests potential opportunities for future studies to target more international publication venues to broaden the global impact of Chinese research on student proactive behaviour. The concentration in social science indices (CSSCI) rather than natural science (CSCD) also reinforces the field's current disciplinary orientation. This distribution is indicative of several salient characteristics of the field. Firstly, it demonstrates alignment with China's academic evaluation systems, which prioritize PKU Core and CSSCI publications. Secondly, the research primarily caters to domestic scholarly audiences rather than to the international academic community. Thirdly, the pattern indicates the potential for future studies to target more international publication venues, with the objective of broadening the global impact of Chinese research on student proactive behaviour. The concentration in social science indices (CSSCI) rather than natural science (CSCD) also reinforces the field's current disciplinary orientation.

Discussion and Conclusion

This study systematically mapped the landscape of research on the initiative of Chinese college students over the nearly 30-year period from 1995 to 2024, using rigorous bibliometric analysis of journal articles indexed in CNKI. The findings indicate a consistent and, at times, rapidly escalating focus on student initiative, aligning with both national educational reform policies and the evolving demands of Chinese society and higher education.

The temporal distribution analysis reveals three distinct phases in the research on college students' initiative. The initial phase is characterized by sporadic exploration, followed by a notable increase in the early 2000s, coinciding with the implementation of quality-oriented education policies. The subsequent phase is marked by accelerated growth in the past decade. This phenomenon is in alignment with significant educational reforms and the policy emphasis on student autonomy, critical thinking, and self-development as central goals of Chinese higher education.

The thematic analysis reveals that early studies were theory-driven, focusing on definitions and conceptual frameworks of student initiative and autonomy. As the field matured, research topics diversified, with significant attention paid to factors affecting initiative (e.g., psychological well-being, academic motivation, teaching methods, and online learning environments), interventions to foster initiative, and the impacts of initiative on achievement, employability, and social adaptability. The advent of widespread digitalization in education in recent years has given rise to novel research avenues, with studies exploring the role of technology, online engagement, and self-regulated learning strategies in cultivating initiative among college students.

A comprehensive analysis of core journals, prominent authors, institutions, and highly cited works reveals the emergence of stable research communities and knowledge networks within the field. However, the relatively concentrated distribution of high-impact publications and authors also suggests the necessity of broader collaboration and greater interdisciplinary

exchange to foster more diverse perspectives and methodologies. The identification of influential articles and highly funded projects offers valuable guidance for future research, and the analysis of download and citation metrics provides insight into the knowledge transfer and practical impact of academic output.

However, it is important to note that the study is not without its limitations and gaps. While the extant literature has thoroughly explored the psychological and pedagogical determinants of student initiative, there is still limited large-scale quantitative evaluation of intervention effects and long-term outcomes in different educational contexts. Additionally, although digital learning environments are the focus of an increasing number of studies, the integration of big data analytics and longitudinal tracking in this domain remains underdeveloped. The findings underscore the necessity for additional international comparative studies and interdisciplinary approaches, as college students' initiative intersects with fields such as educational technology, public health, psychology, and labour market research.

In summary, this bibliometric review has greatly expanded our understanding of the research trajectory and academic status of Chinese college students' initiative. The field's steady growth, shift in research focus, and increasingly sophisticated analytical methods indicate its maturation, dynamism, and capacity to effectively respond to domestic policies and global educational trends. Future research should prioritize empirical intervention studies, interdisciplinary perspectives, and the impact of new technologies and globalization on student initiative. This study addresses a methodological gap in the literature by adopting a quantitative, data-driven perspective, thereby providing practical implications for policymakers, educators, and researchers who aim to cultivate Chinese college students' initiative and self-growth capabilities. As the world's largest producer of higher education, the research status and implications of college students' initiative in China will have great and long-term reference significance for the research and practice of cultivating college students' initiative around the world.

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