

Research Trends on Support for Children with Intellectual Disabilities in China (2004–2023)

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Abstract: The education and quality of life of children with intellectual disabilities (ID) have received increasing attention in China due to the evolving diagnostic standards and educational policies. This study analyzes research trends on support for children with ID in China from 2004 to 2023. Using bibliometric analysis and keyword clustering methods, 384 research papers published in the China National Knowledge Infrastructure (CNKI) database were examined. The results are as follows. First, research on support for children with ID in China has gradually increased since 2004, with a significant surge observed after 2016. Second, keyword analysis identified key research themes, including “social support,” “inclusive education,” “special schools,” “group work,” and “case studies.” Third, the research frontier analysis revealed that studies on ID support in China have primarily developed in three key domains: social support systems, family and community support, and school-based support. This paper aims to serve as a foundational reference for future research and policy development.

Keywords: Children with intellectual disabilities; Support; Research hotspots; Bibliometric analysis; Keyword clustering

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1. Introduction

Intellectual disability (ID) is defined by the American Association on Intellectual and Developmental Disabilities (AAIDD) as a disorder characterized by significant limitations in both intellectual functioning and adaptive behavior, with onset during the developmental period ^[1]. Education for students with ID has been a core focus of special education policies in China. The 14th Five-Year Plan of Action for the Development of Special Education emphasizes improving the quality of education and establishing robust support

mechanisms for students with special needs ^[2]. Despite these policy advancements, a significant gap remains in systematically understanding the research trends and support mechanisms for students with ID in China.

Globally, evidence-based practices such as teacher training, individualized support systems, and technology integration are central to improving outcomes for students with ID. Chen emphasized that a strengths-based approach and evidence-based frameworks significantly enhance the quality of education and support for individuals with disabilities ^[3]. Understanding the current state of research on ID is crucial for guiding future policies and practices, particularly in China, where significant policy developments coexist with limited systematic evaluation.

2. Research tools and data sources

CiteSpace is a tool for citation analysis that enables mining of citation networks and offers robust features for analyzing co-occurrences among various scientific entities, including author collaborations, institutional partnerships, and geographic distribution across countries and regions. Widely utilized in scientific literature analysis, CiteSpace effectively reveals the research history, emerging hotspots, current research fronts, and dynamic trends within specific knowledge domains ^[4].

We conducted an advanced search on China National Knowledge Infrastructure (CNKI, <https://www.cnki.net>) using the following Boolean query: (“Intellectual Disability” OR “Children with Intellectual Disability” OR “Students with Intellectual Disability” OR “Adolescents with Intellectual Disability”) AND (“Support” OR “Assistance”). The search was limited to peer-reviewed journal articles published between 2004 and 2023, resulting in a total of 384 documents ^[5].

3. Analysis of research results

3.1. Research situation of support for children with intellectual disabilities in China

Statistical analysis of the annual publication volume of research related to ID. This paper counts the number of publications on ID support research since 2004, as shown in **Figure 1**. Comparing 2023 with 2004 reveals that the number of annual issues of literature on ID support research has risen from 1 to 42. The whole development process is divided into four stages ^[6].



Figure 1. The number of published papers

First, the initial stage (2004–2009): The degree of attention to research is low, with a small increase rate, in the initial development stage of ID-related research.

Second, the growth readiness phase (2010–2015): There is a growing focus on research and policy changes related to special education [7].

Third, the rapid growth phase (2016–2020): The activation of research and the proliferation of ID research.

Fourth, the stability and change period (2021–2023): The diffusion and quantity fluctuation.

3.2. Research hotspot analysis

Based on the knowledge map of keyword co-occurrence network shown in **Figure 2**, we can conduct a detailed analysis of the research hotspots in this field.

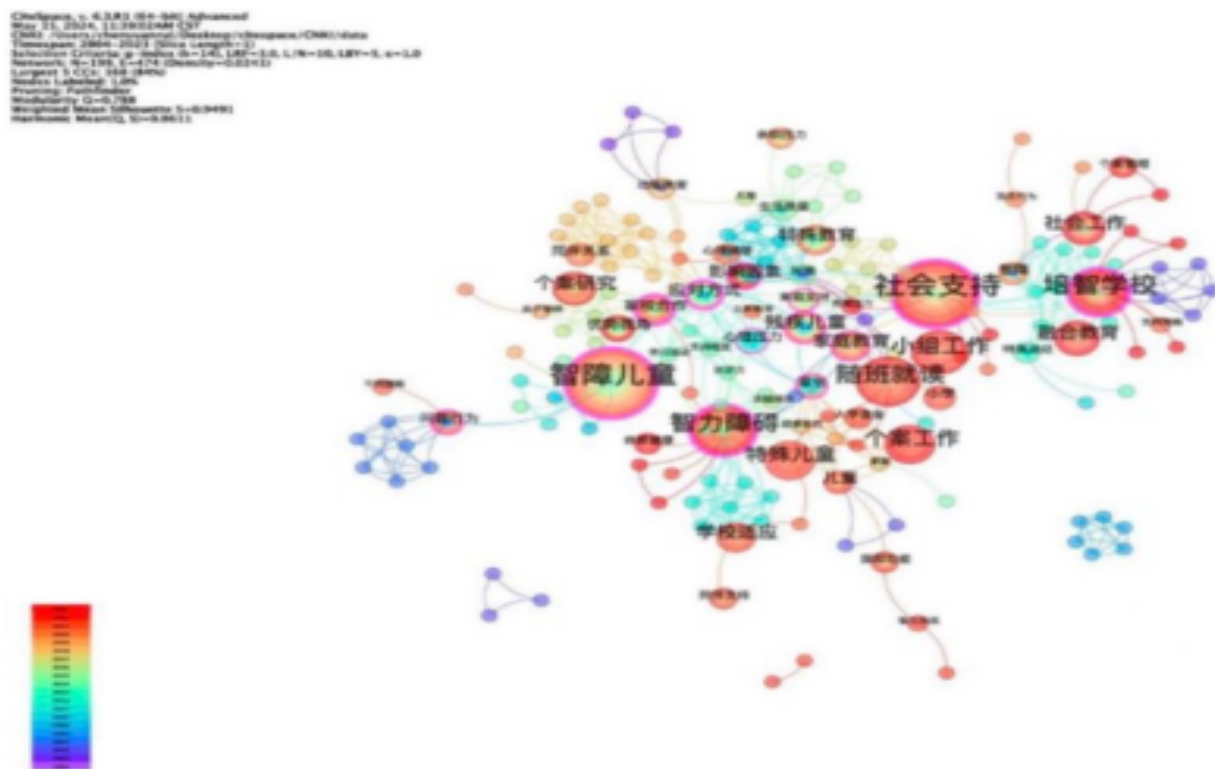


Figure 2. Knowledge map of keyword co-occurrence network

Keywords provide a high-level summary of the themes in the literature, and high-frequency keywords reflect the areas of focus among researchers in a given field. In this study, keywords were used as node types, with a one-year time slice for analysis, resulting in the knowledge map of keyword co-occurrence network [8]. Each circular node in the figure represents a keyword, with the size of the circle indicating the frequency of the keyword. The color rings within the circles represent different years, and thicker color rings indicate higher keyword frequency in that particular year. Betweenness centrality, which reflects the mediating role of keywords within the network, serves as another crucial metric for assessing research hotspots [9].

In this study, frequency and betweenness centrality were combined to identify research hotspots. The top 20 keywords based on frequency and betweenness centrality were compiled (**Table 1**). Among them, “Children with ID” and “ID” had both high frequency and centrality values. However, since these terms were used as search keywords, their removal did not affect the identification of research hotspots; therefore, they were

excluded from the analysis. Based on the analysis of the main research hotspots above, we reflect the primary concerns and research directions of scholars in this field ^[10].

Table 1. Keywords with the highest frequency and centrality (top 20)

Rank	High-frequency keywords	Frequency	Centrality
1	Children with ID	38	0.33
2	Social support	34	0.32
3	Schools for students with ID	22	0.28
4	Learning in regular classroom	20	0.24
5	ID	19	0.22
6	Group work	15	0.21
7	Casework	13	0.15
9	Integrated education	9	0.11
10	Social work	9	0.09
11	Case study	9	0.06
12	School adjustment	8	0.05
13	Disabled children	8	0.05
14	Family education	7	0.05
15	Special education	7	0.03
16	Coping style	6	0.02
17	Influencing factor	6	0
18	Children	6	0
19	Dominant perspective	5	0
20	Home-school cooperation	5	0

3.3. Research frontier analysis

Based on the above data, the following analysis examines the research frontiers of ID support in China.

3.3.1. Keywords clustering analysis

On the keyword co-occurrence analysis, further cluster analysis was conducted, resulting in a clustering network diagram with a Q value (an index that measures the significance of a network cluster structure; a higher value indicates a more distinct clustering structure) of 0.788, an S value (an indicator to measure the internal consistency of clusters and the degree of separation between clusters, $S > 0.7$ shows that the clustering results are obvious) of 0.949, and 10 clusters (see **Figure 3**) ^[11].

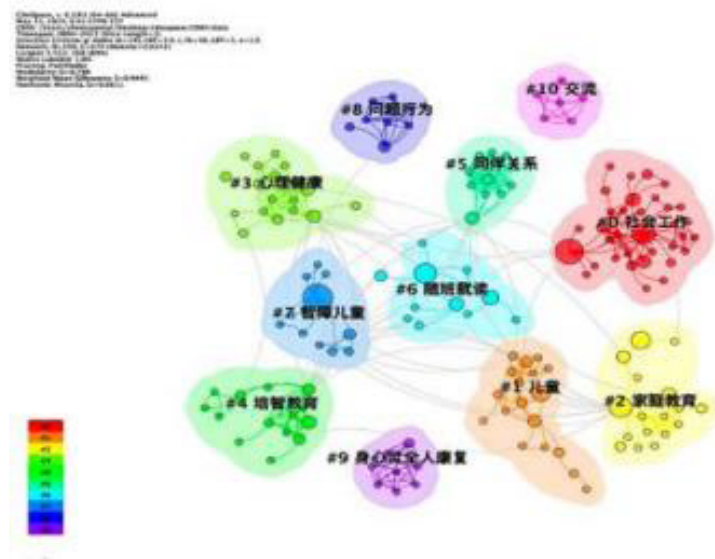


Figure 3. Keyword clustering network map

By comparing **Table 2** and **Figure 3**, among the clusters, #0. Social Work and #1. Children were the two largest clusters. Both clusters contain the keyword “ID.” In addition, #0 Social Work includes the keyword “Social Support,” while #1 Children includes the keyword “Social Interaction Skills.” The keyword clustering highlights the structural framework of research on ID support (as shown in **Table 3**)^[12].

Table 2. Main keywords within each cluster

#	Cluster name (Chinese)	No. of nodes	S value	Keywords
0	Social work (社会工作)	34	0.982	Labor skills courses, Intellectual schools, Social support, ID
1	Children (儿童)	18	0.906	ID, International functioning, Review literature, Social interaction ability
2	Family education (家庭教育)	18	0.958	ID, Group work, Practice path, Mild ID
3	Mental health (心理健康)	18	0.954	Support role, Peizhi Chinese language, Parents of disabled children, Intergenerational transmission
4	Intellectual education (培智教育)	15	0.972	Home-school cooperation, Home-school relationship, Parent-child acceptance, Parents of exceptional children
5	Peer relationship (同伴关系)	12	0.974	Social work interventions, Children with Down syndrome, Case studies, Ecosystem theory
6	Learning in regular classroom (随班就读)	12	0.774	Children with special needs, Children with disabilities, Primary school, School preparation
7	ID children (智障儿童)	11	0.906	Social security system, Psychological pressure, Development status, Family resources
8	Problem behavior (问题行为)	8	0.986	Positive behavioral support, Functional behavioral assessment, Intervention strategies, Peer support
9	Full body and mind rehabilitation (身心全人康复)	8	0.99	Carers, Persons with disabilities, Children with psychological crisis, ID
10	Communication (交流)	6	1	Language quality, Language, Pragmatic interaction, Growth model

Table 3. Research structure

Research direction	Clustering label	Classification basis
Supported objects and problems	#1. Child	Support targets specific groups and challenges. Research focuses on children's development, education, and mental health (Smith et al., 2022). Children with ID, a key focus of special education policies in China, often face problem behaviors and communication difficulties, requiring targeted interventions (Cooper et al., 2020; Paul et al., 2012).
	#7. Children with ID	
	#8. Problem behavior	
	#10. Communication	
Family and social support	#0. Social work	Social work supports individuals, families, and communities, playing a key role in social support (Hepworth et al., 2017). Family education focuses on parent-child relationships and teaching methods (Guan, 2023). Mental health support enhances well-being through family and social networks (Goodman et al., 1999). Holistic rehabilitation promotes recovery across physical, psychological, and social domains, requiring family and societal support (Anthony et al., 1993).
	#2. Family education	
	#3. Psychological health	
	#9. Holistic rehabilitation	
School support	#4. Intellectual education	School support enhances the education of students with special needs through strategies, resources, and services. Intellectual education is a key component of this support, focusing on students with ID (Liu, 2018). Peer relationships foster psychological and social development, requiring school initiatives to promote positive interactions (Li, 2013). Inclusive education integrates students with special needs into regular classes, necessitating adequate resources and services for effective implementation (Deng, 2014).
	#5. Peer relationship	
	#6. Learning in regular classroom	

3.3.2. Research structure and hotspot evolution

A keyword time-zone distribution analysis was conducted on Chinese literature (CNKI) related to support for children with ID. The results reveal a clear migration path (as shown in **Figure 4**). Starting from social support in 2010, the focus gradually shifted towards research on support strategies by 2021^[13].

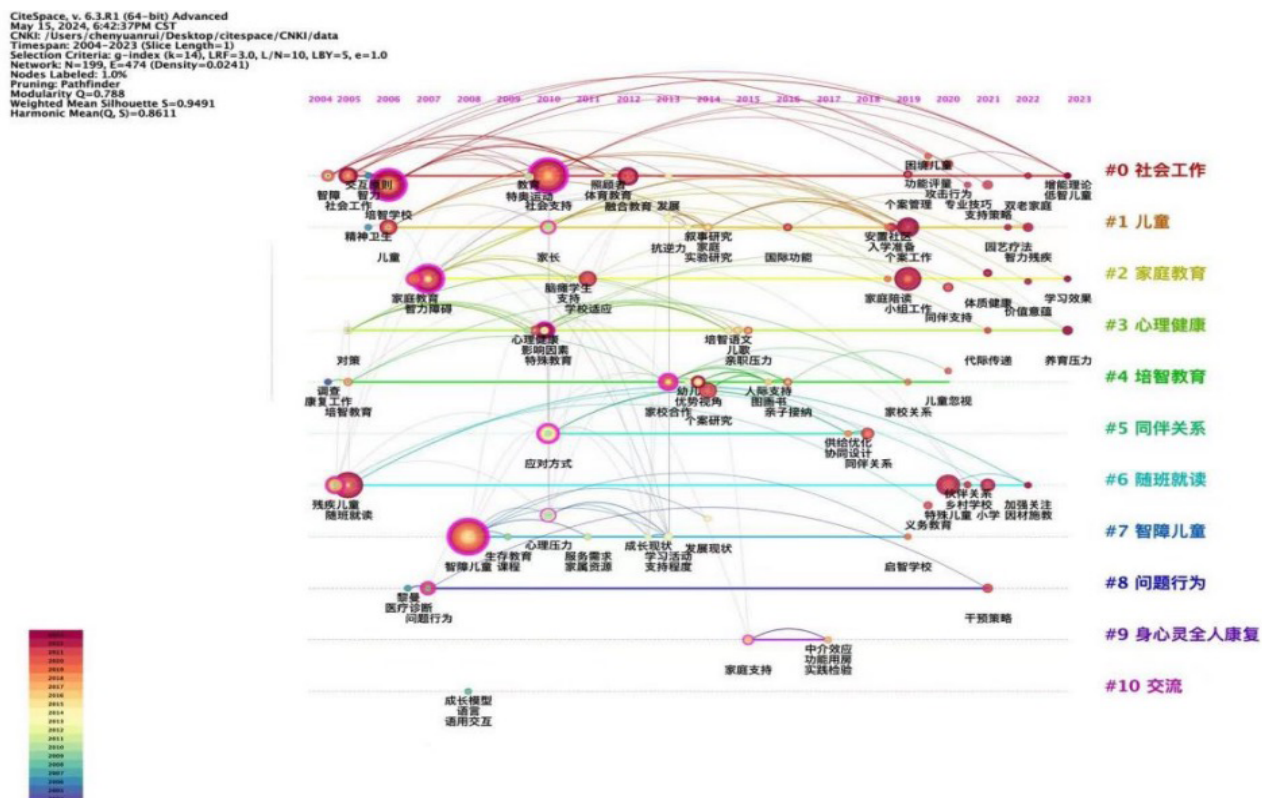


Figure 4. Keyword timeline chart in research on support for students with ID in China (2004–2023)^[14]

4. Discussion and conclusion

4.1. Conclusion

This study systematically analyzed the development of research on support for children with ID in China over the past two decades using bibliometric methods. Unlike previous studies that primarily focused on policy analysis or qualitative reviews, this study employs keyword clustering and network analysis to provide a data-driven understanding of research trends. The findings highlight the increasing importance of social support, inclusive education, and school-based interventions. Additionally, this study underscores the necessity of integrating the ecological model into future research and policy frameworks to develop more comprehensive and individualized support systems for children with ID ^[15].

4.2. Discussion

Based on the results of this study, several key discussions emerged.

First, the use of standardized terminology needs further attention. In 2010, the term “mental retardation” was replaced with “ID.” However, “mental retardation” is still used in some Chinese literature. The 12th edition of the AAIDD manual differentiates between “Disability,” “ID,” and “Developmental Disability.” Chinese laws, including the Law on the Protection of Persons with Disabilities and the Regulations on the Education of Persons with Disabilities, now reference “ID.” Therefore, future research and practice should consistently use “ID” to align with international standards ^[13].

Second, incorporating advanced international frameworks is crucial for establishing a scientific perspective on support. Keyword co-occurrence analysis shows “Children” as the most frequent term, followed by “Social support.” Research on support for children with ID has gained increasing attention, indicating a growing trend in this field.

An effective support system integrates resources and strategies that enhance personal development, achievement, and well-being. Its key characteristics include person-centeredness, comprehensiveness, coordination, and outcome orientation. Expanding social support networks can improve the social adaptation of children with ID, boosting their confidence and social skills. Social support includes contributions from government agencies, NGOs, schools, and families. Strengthening community-based support remains a crucial area for future development ^[16]. Parental support is also essential. Parenting stress negatively affects children’s school adaptation. Many parents of children with ID experience inadequate support, forcing them to leave employment for caregiving.

4.3. Suggestions

The data presented in this study show and emphasize the importance of individualized education. Supporting research emphasizes the importance of multidisciplinary collaboration. Continue to promote the application of assistive technology in curriculum development and implementation to enhance students’ participation and learning effects. Family and community resources should be integrated into curriculum development and design, and parents and communities should be encouraged to participate in the education process to enhance the continuity and effectiveness of education ^[17].

Disclosure statement

The authors declare no conflict of interest.

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