Analysis of Hotspots and Trends in Media Ethics Research since the 21st Century: a CiteSpace-based Knowledge Mapping Analysis

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Abstracts: This paper takes 651 papers in the field of media ethics published in the CNKI database since the 21st century (2000-2023) as samples, and uses CiteSpace software to carry out visual analysis. Since the 21st century, the development of media ethics research in China has been divided into an exploratory period, a developmental period, a period of significant growth, and a period of relative stability, with fewer core authors and without the formation of a sizable research community. There are four clusters in the field of media ethics research: core media ethics, ethical challenges and misconduct, media ecology and ethics, and media literacy education, and the hot research trends in this field are explored in depth. It is found that the research hotspots in this field focus on the study of media ethics issues brought about by the iteration of technology, such as artificial intelligence and big data; media literacy education needs to be vigorously developed to cope with the ethical challenges brought about by the new technology; and media ethics research in China will enter the stage of long-term exploration and development of the new technology, such as artificial intelligence.

Keywords: Media Ethics, Media Literacy Education; Knowledge Graph; CiteSpace

1. Introduction

In today's society, the media, as the main tool for the dissemination of information, influences all aspects of society. As the fourth power, the media has a profound impact on society as it undertakes the mission of monitoring, public messaging and dialoguing with society. Media ethics is a systematic inquiry into the choices of good and evil in people's media behaviors and attempts to define what is commonly recognized as principles [1]. This study aims to delve into the importance of media ethics and its impact on the media industry and society. In the age of smart media, the media is not only a platform for information transmission, but also plays a key role in social supervision, opinion shaping and social change. However, media power is also accompanied by ethical challenges, such as news falsification, privacy invasion, social media abuse and information leakage, which are becoming more and more prominent in the digital age. Studying media ethics not only helps to regulate the chaos in the media industry, but also can make some suggestions for the construction of social ethics in China. Based on the theoretical basis of modern intelligence science, this study collects and organizes relevant literature, uses literature visualization and measurement tools to sort out the research results in the field of media ethics in China, presents its development, thematic distribution and research hotspots, proposes countermeasures against the dilemmas of media ethics and puts forward the outlook of the research direction, with a view to providing references for this purpose. As an information visualization software, CiteSpace can measure the literature in a specific field and draw visual maps to grasp the research trend of this field from various angles such as authors, institutions, keywords, etc. [2]. CiteSpace visualizes data samples based on co-citation analysis and path-finding network algorithms, which is widely used in the field of literature measurement.

2. Data sources and Parameterization

In this paper, CiteSpace.v.5.7.R5 was chosen to visualize and analyze the research field of

media ethics in China in order to describe its development. The research data were collected from CNKI database, and all the documents with the theme word "media ethics" were searched, and the search time range was from 2000 to 2023, and a total of 721 documents were searched, and after manual filtering and de-emphasizing, 651 documents were obtained which were closely related to the research theme.

In the visualization parameter settings, Years Per Slice was set to 1, Selection Criteria was chosen as g-index, k=25, and the time range was set to January 2000-October 2023.

3. Characterization of Media Ethics Research in China

3.1 Time Distribution of the Study

Taking the research timeline as a reference, 651 media ethics research literatures were analyzed in terms of the number of articles issued. The whole, as shown in Figure 1, media ethics-related research began to appear in 2001 in China, and as of October 2023, domestic academics have developed relatively rich theoretical results.
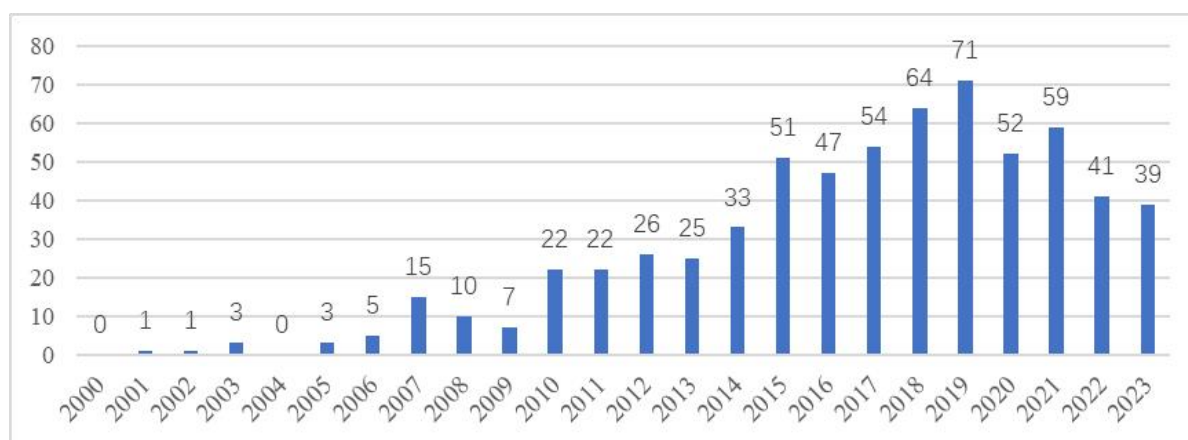

Figure 1. Temporal Distribution of Research Literature in the Field of Media Ethics (2000-2023).

Combining Figure 1 with the literature data, the development of media ethics research can be broadly categorized into the following stages:

(1) Exploratory period (2001-2007):

Between 2001 and 2003, the number of publications in the field of media ethics began to reveal itself, albeit in a relatively small number, showing the enlightenment of research interest. The relatively low number of publications in the field of media ethics reflects the fact that the field was still in the early stages of exploration and development during this period. Between 2001 and 2007, research in the field of media ethics focused mainly on traditional media, journalism ethics and the professional ethics of journalists, in particular the ethical dilemmas arising from media ethics issues, and the significant increase in the number of publications in 2007 compared to the previous years can be seen as the beginning of the next phase.

(2) Development period (2008-2013):

Between 2008 and 2013, the number of articles published was relatively stable, with little fluctuation. The research field of media ethics has formed a certain foundation in this period, and scholars have focused on exploring issues in known fields and started to pay attention to subfields such as media social responsibility, media literacy of media users, and mass media ethics, with a relatively stable number of articles.

(3) Period of significant growth (2014-2018):

Between 2014 and 2018, the number of articles issued increased significantly. Driven by the rapid development of emerging technologies and digital media, media ethics issues have become more complex, triggering more academic research. During this period, the geographic scope of media responsibility expanded globally, and the attention of scholars expanded from traditional media ethical issues to new and electronic media.Starting from 2017, the number of postings showed a jump in the number of articles, as the ethical challenges arising from technologies such as media convergence, social media, big data, and artificial intelligence attracted widespread attention, leading to a research boom.

(4) Period of relative stability (2019-2023):

From 2019 to 2023, the number of articles issued in this field shows a decline, but the overall data remains stable. The research scope of the field expands, with more attention paid to the ethical challenges of the digital era, such as media ethics issues arising from new technologies such as big data, algorithms, human-computer interaction, ChatGPT, and artificial intelligence. However, there is still a sustained focus on traditional media ethics during this period.

Taken together, the field of media ethics has experienced significant growth and development over the past two decades or so. The initial rapid growth may be attributed to the fact that the development and iteration of media technologies triggered scholars' attention to ethical issues. Over time, researchers have built the foundation of the field and the focus of research has gradually shifted to ethical issues raised by emerging technologies and digital media. However, the decline in the number of publications in recent years may indicate that scholars are looking for new areas of research or delving into more detailed aspects of known issues. This trend demonstrates the vitality and diversity of the field of media ethics research.

3.2 Distribution of Study Authors

Through the collation of literature, the maximum number of articles published by authors in the field of media ethics is 17, and according to Price's formula, authors who have published 4 or more articles in the field of "media ethics" are identified as core authors (N=3.088). After collating the literature, we found that there are two core authors in this field, namely Changfeng Chen (17 articles) and Zuosu Jiang (9 articles). Other more active authors in this field are Junran Wu, Xia Liu, Huaxin Peng, Zengjun Peng, Hua Ran, Chengwei Gu, Jiayin Lu, and Zhenbiao He, all of whom have published 3 articles. From the visualization of the authors' collaboration network analysis (Figure 2), it can be seen that there is only one small research team in this field, and there are fewer co-authors, and most authors publish independently and work alone, which has not yet formed a core group of authors.

Figure 2. Visual Mapping of Author Collaboration Network Analysis

3.3 Analysis of Media Ethics Research Themes

Keyword co-occurrence, keyword co-occurrence clustering, and keyword emergence analyses were performed using CiteSpace to systematically analyze and visually present data in this research area of media ethics.

3.3.1 Keyword co-occurrence analysis

Using CiteSpace to co-occur with keywords in the field of media ethics, the research centers in this field can be quickly discovered. As can be seen in Figure 3, in the whole research field of media ethics, scholars in China mainly focus on the keywords of media ethics, journalism ethics, artificial intelligence, new media, ethical misconduct, communication

ethics, media integration, media literacy and so on. As shown in Table 1, there are 12 keywords appearing more than 10 times, and their contents include different research fields such as concept definition, theoretical research, research scope, research dilemma, etc., which fully reflect the breadth and contemporaneity of research in this field. By observing the size and color of the nodes, it can be seen that in recent years, the keywords that appear more frequently are media ethics, artificial intelligence, ethical misconduct and journalism ethics.
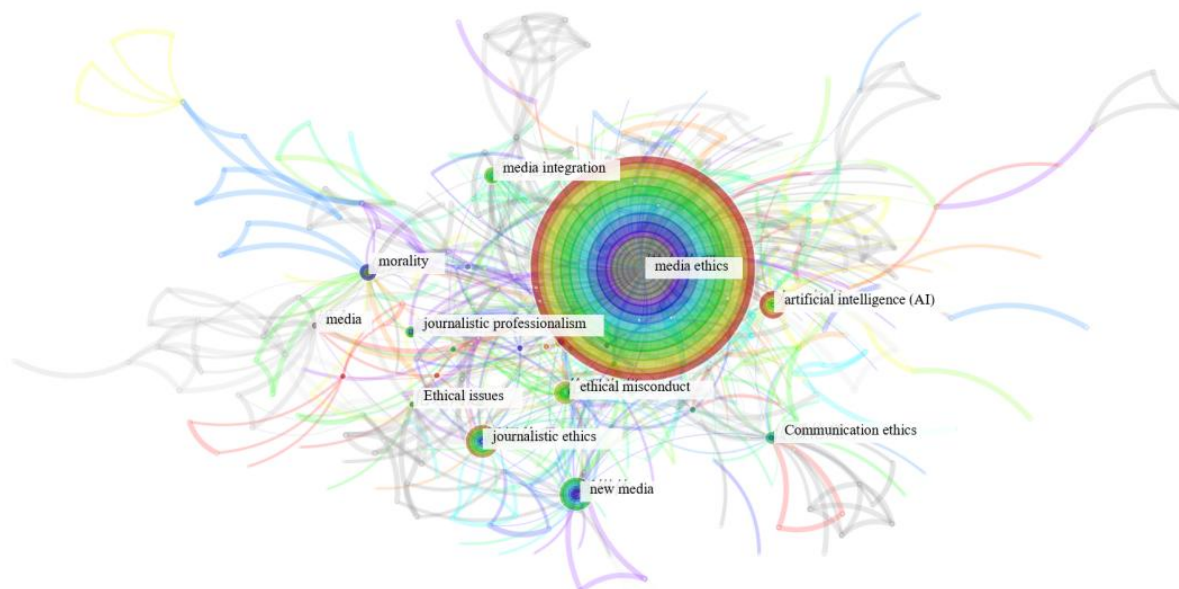

Figure 3. Co-occurrence Mapping of Keywords in Media Ethics Research

Table 1. Keyword Statistics

serial number	byword	word frequency	Year of first occurrence
1	media ethics	350	2003
2	journalistic ethics	36	2003
3	artificial intelligence (AI)	33	2018
4	new media	32	2012
5	ethical misconduct	29	2011
6	Communication ethics	21	2011
7	morality	21	2010
8	media integration	17	2009
9	media literacy	14	2009
10	self-media	12	2009
11	journalistic professionalism	11	2014
12	bridge	10	2005

3.3.2 Keyword co-occurrence network clustering

The keyword clustering of the literature data was carried out by LLR clustering in CiteSpace software. As shown in Figure 4, in this clustering result, the Modularity Q is 0.63; the Silhouette is 0.93, which indicates that the structure of the clustering network associations is more significant, the network homogeneity is high, and the clustering result is of high confidence.

After screening out the groups with less literature (less than 10 articles), 10 clustering groups were derived. As shown in Table 2, the following 10 clustering groups clustering average contour value (S) are > 0.8, network homogeneity is high, and the clustering results have high confidence.
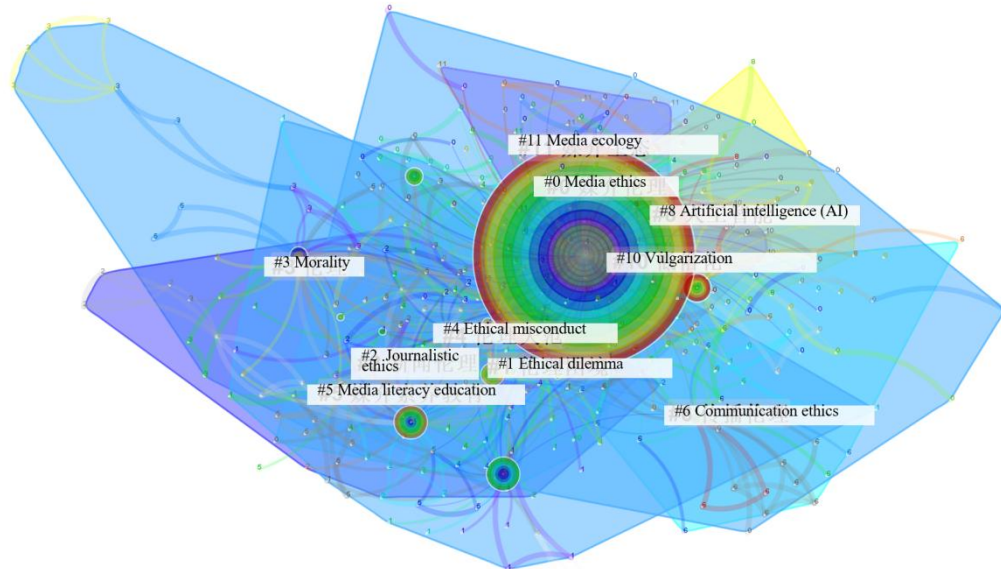
Figure 4. Keyword Clustering Diagram
Table 2. Keyword Clustering Table

cluster number	Cluster name	Silhouette
0	Media ethics	0.98
1	Ethical dilemma	0.873
2	Journalistic ethics	0.947
3	Morality	0.909
4	Ethical misconduct	0.806
5	Media literacy education	0.906
6	Communication ethics	0.9
8	Artificial intelligence (AI)	0.838
10	Vulgarization	0.941
11	Media ecology	0.914

According to the Table 2, research in the field of "media ethics" mainly focuses on 10 aspects, which can be initially divided into the following four categories:

Category 1: Core media ethics areas

Within this category, there are four main aspects: #0 media ethics, #2 journalism ethics, #3 morality, and #6 communication ethics. China's research on media ethics only appeared in the late 1970s and early 1980s, and the earliest research was on journalism ethics [3], and with the development of the discipline, subcategories such as communication ethics and advertising ethics have gradually been incorporated into the study of media ethics. In #2 journalistic ethics, news professionalism has been the key research direction that cannot be avoided, and the professional ethics of news practitioners is one of the specific embodiments of news professionalism, which is a kind of conscious norms and constraints on news practitioners themselves [4]. In addition, with the development of China's news industry practice, the focus of news ethics is also shifted from the practitioners to the social and moral functions of the news media [5], including moral news judgment, the balance of privacy, moral responsibility and the development of ethical guidelines for news. #6

Communication ethics belongs to the branch of applied ethics, which focuses on analyzing and evaluating the ethical issues in the process of information dissemination and communication, emphasizing how the mass media perform ethics in practice, and scholars' research on communication ethics focuses more on the ethical codes to be observed and ethical issues to be confronted in new media, etc. Among them, keywords such as short video, media convergence, big data and algorithm have become the focus of recent research.

Category 2: Ethical challenges and failures

The clusters under this category are #1 ethical dilemma, #4 ethical misconduct, and #10 vulgarization. Ethical dilemmas are caused by ethical conflicts, and their emergence leads to ethical misconduct, and vulgarization is one of the manifestations of ethical misconduct. According to the clustering information, our scholars' research on ethical misconduct has been carried out throughout the whole process of media development in China, from the opposition between news value and ethics [6], to the mass media of pan-entertainment [7], to the "vulgarization" and "misconduct" brought about by the decentralization of the content of short video platforms (UGC) [8], and then to the presentation of deformity, obscuration and coarsening in the field of webcasting [9]. In different times, the manifestations of ethical misconduct vary slightly with the change of media, but in general, the main manifestations of ethical misconduct lie in the aspects of (1) false news/misleading reports; (2) invasion of privacy; (3) biased and discriminatory reports; (4) commercial interests precede the public interest; and (5) alienation of information brought by algorithms, etc. The causes can be categorized as conflicts of interest, unethical motives and illegal behaviors.

Category 3: Media Ecology and Ethics

Under this category, two concepts, #8 Artificial Intelligence and #11 Media Ecology, are included, and the change of media ecology will have an impact on the development of media ethics. Media ecology was proposed by McLuhan, with the concept of media convergence and the development of new technologies such as artificial intelligence, China's media ecology is undergoing reconstruction and integration, and the technological evolution in the media ecology poses new challenges to media ethics. The emergence of new technologies, such as social media, big data analytics and artificial intelligence, raises ethical issues, such as privacy protection, information authenticity and data security. At the same time, changes in media ecology have altered the way media is used, with more people changing from recipients to producers and disseminators, which also raises ethical issues related to disinformation and cyber violence. Among the technological changes in the media ecology, artificial intelligence and algorithmic recommendation have become a recent hotspot of concern in the field of media ethics, with scholars focusing on the privacy leakage and information alienation brought about by the technology [10] and even leading to problems such as the alienation of social subjects [11].

Category 4: Media literacy education

#5 Media literacy education can be seen as a solution to ethical challenges and disorders. Media literacy is the ability of users to understand, criticize and use media, including three components: awareness, participation, and use of mass media. Users here include not only audiences but also practitioners. Ethics education is a part of media literacy, and the development of media literacy helps to enhance users' understanding of technology to produce news, improve their ethical awareness in news creation and dissemination, as well as enhance their ability to choose new media content [12]. Media ethics issues change with the development of media ecology, and media literacy education also needs to be upgraded and iterated to keep up with the trend of media ecological changes.

3.3.3 Keyword highlighting

The keyword emergence map reflects the keywords that suddenly show a significant increase in the frequency of occurrence in a specific year, which allows us to quickly discover the latest research hotspots in the field. By analyzing the literature data, the author collected 11 emergent words in the field of media ethics since the 21st century. According to Figure 5, we can see that the keyword Artificial Intelligence has become the keyword with the highest intensity of emergence (9.64) since its emergence in 2019, which indicates that Artificial Intelligence has rapidly emerged and become one of the core topics in the field of media ethics in the last 5

years. Along with AI, there are other keywords such as ethical misconduct, information cocoon, social media, and post-truth, which together constitute the hot topics of research in the field of media ethics in the past five years.
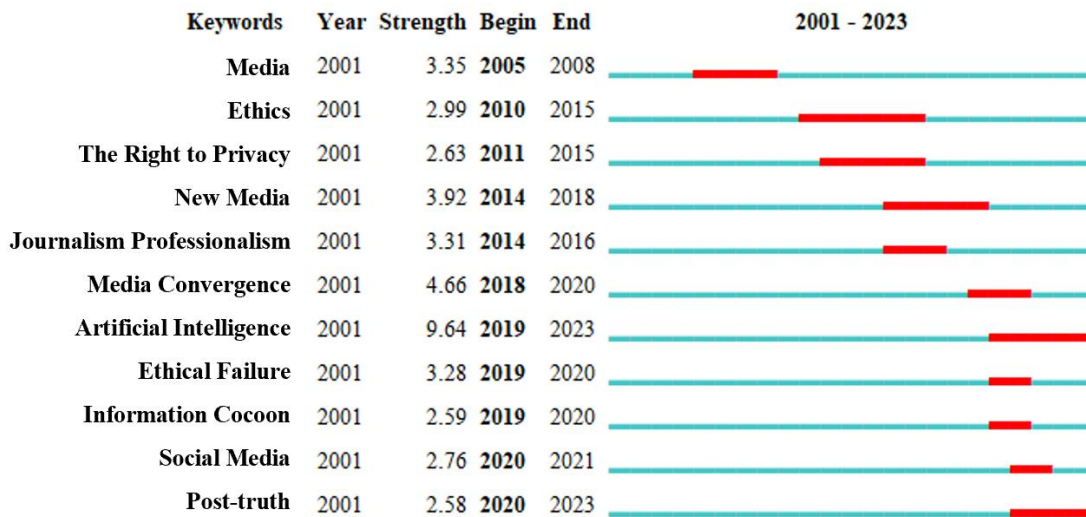
Top 11 Keywords with the Strongest Citation Bursts

Keywords	Year	Strength	Begin	End	2001 - 2023
Media	2001	3.35	2005	2008	
Ethics	2001	2.99	2010	2015	
The Right to Privacy	2001	2.63	2011	2015	
New Media	2001	3.92	2014	2018	
Journalism Professionalism	2001	3.31	2014	2016	
Media Convergence	2001	4.66	2018	2020	
Artificial Intelligence	2001	9.64	2019	2023	
Ethical Failure	2001	3.28	2019	2020	
Information Cocoon	2001	2.59	2019	2020	
Social Media	2001	2.76	2020	2021	
Post-truth	2001	2.58	2020	2023	

Figure 5. Keyword Emergence Map

4. Conclusion

By combing the literature on media ethics research since the 21st century, the following conclusions can be drawn: from 2014 to 2023, China's media ethics research mainly centers on the problem of media ethical misconduct and coping strategies brought about by technological development, conflict of interest, and unethical behaviors and other causative factors; the researchers are mostly independent creators who lack cooperation and communication among themselves, and the core group of authors has not yet been formed; the hotspots of the recent research and the future Recent research hotspots and future development trends mainly focus on the study of media ethics issues brought by the iteration of technology, such as artificial intelligence and big data. Nowadays, the emergence of artificial intelligence, deep learning and automated news production has brought new ethical challenges, and media ethics research needs to develop and innovate to ensure that it can keep pace with the process of media digitization. At the same time, media literacy education is still insufficient, and practitioners and audiences lack sufficient literacy education to cope with ethical dilemmas and select appropriate media content, so it is imperative to strengthen media literacy education. To summarize, based on the rapid development trend of technology in the era of smart media, China's media ethics research will enter a long-term exploration and development phase of new technologies such as artificial intelligence.

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