Academic Education
Publishing House

Corpus-based Critical Discourse Analysis of Traditional Chinese Medicine in Western Media Reports

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Abstract: This study explores the perceptions and attitudes of Western media towards Traditional Chinese Medicine generally based on Model of Extended Units of Meaning, and examines the focus of each of the five Western media based on thematic terms. Study findings indicate that: (1) Although the western media discourse as a whole constructs the image of "traditional Chinese medicine" as having been tried, accepted, and "relatively safe and effective" in treatment, it still holds a preference toward Western medical science; (2) The media reports of Traditional Chinese Medicine (TCM) during the epidemic was politically biased, although there was a wide range of coverage across countries, with a consistent focus on the ecological impact of TCM. In addition, this study reveals some of the challenges facing the internationalization of TCM, which may provide insights for the future targeted and strategic promotion of the international dissemination of TCM culture.

Keywords: Corpus; Western Media; Traditional Chinese Medicine; Critical Discourse Analysis

1. Introduction

Traditional Chinese Medicine (TCM) is an efficient traditional medical treatment system that has been practised in China for thousands of years, and it is a treasure in the excellent history and culture of the Chinese nation. Developed under the guidance of simple materialism and spontaneous dialectics in ancient times, TCM is not only the historical precipitation of traditional Chinese medical thinking, but also reflects the thinking paradigm of the Chinese nation in observing, perceiving and understanding the world, and has unique health care and healing effects [1]. TCM is also an essential part of the health care system in most Asian countries, relies on natural products and has been playing a very important role in health protection and

disease control for thousands of years. 2019 saw the first inclusion of Chinese medicine in the World Health Organization's global medical agenda. Under the background of "western transmission of Chinese medicine" and "cultural confidence", the pace of "going out" of Chinese medicine culture has been unstoppable. According to statistics, 103 member States of the World Health Organization (WHO) have approved the use of acupuncture, 29 countries have established laws and regulations on traditional Chinese medicine, and 18 countries have included acupuncture in the medical insurance system [2]. In recent years, the rapid development of the media has further strengthened international cultural exchanges and interactions, and traditional Chinese medicine culture has become an important symbol of the internationalization of Chinese culture [3,4]. At the same time, with its advantages, TCM has gradually been widely concerned by the western media, which has promoted the overseas dissemination and development of TCM. The discursive construction of TCM by the overseas English media influences the public's recognition and acceptance of TCM [5]. However, in the process of the international dissemination of TCM, there are still some biases and fallacies in the news media, such as the Economist, which lead to different attitudes towards TCM overseas [6], and also promote or restrict the internationalization of TCM to some extent.

The Economist is a comprehensive news and commentary publication covering a wide range of global politics, economics, culture, and technology, with a focus on providing in-depth analysis and commentary on these topics. As the circulation of many similar English-language news magazines has stagnated or declined over the 21st century, the Economist has seen a significant increase in circulation and performance, signaling the dawn of the era of Mass Intelligence. One of the discussions and reports on TCM in this publication has

significantly strengthened the influence of TCM in the world. Unlike other news magazines, the Economist insists on anonymous contributions, and they believe that the content of articles is more important than the authors themselves. In response, many scholars have criticized that the publication uses the names of journalists to create an illusion as if the content is all unbiased truth rather than personal opinion, which cloaks the imagined facts in a layer of inevitability and accuracy, thus leading to the phenomenon of mixed attitudes towards TCM overseas, and to some extent facilitating or limiting the internationalization of TCM. Based on this, this paper adopts a critical discourse analysis from the perspective of the discursive construction of TCM in this publication, focusing on the ideological effects of the discourse, aiming to reveal the relationship between discourse, power and ultimately the ideology behind this phenomenon [7]. Based on the discussion above, this study seeks to answer the following research questions:

1) What are the linguistic features of the Economist discourse in constructing the image of traditional Chinese medicine?
2) How the image of traditional Chinese medicine is constructed by the Economist in its texts and discourse practices?
3) What are the ideologies uncovered by the discursive constructions of traditional Chinese medicine in the Economist in its texts and discourse practices?

2. Methodology

The purpose of this study is to explore the perceptions and attitudes of Western media towards Traditional Chinese Medicine generally based on the Model of Extended Units of Meaning through News on the Web corpus to reveal some of the challenges facing the internationalization of TCM.

2.1 Materials

News on the Web (NOW) corpus data from January 1, 2013, to January 1, 2023. The NOW corpus is part of the same web search platform as the widely used American Contemporary English Corpus, a collection of news corpus from web-based newspapers and magazines around the world from 2010 to the present, covering online news published by mainstream news media in 20 countries and regions, developed by Professor Mark Davies of Brigham Young University.

2.2 Research Design

This study can be followed in two steps. The first step is to examine the perceptions and attitudes of Western media toward TCM generally based on the Model of Extended Units of Meaning (EUM). Sinclair [8] was the first to propose the Model of Extended Units of Meaning, which consists of five elements: node word, collocation, colligation, semantic preference, and semantic prosody. Collocation refers to the co-occurrence between words. Colligation is the co-occurrence of vocabulary and grammar. Semantic preference is the semantic features of collocations, which is the co-occurrence between a node word and a specific semantic set. Semantic prosody reflects the functional characteristics of words, expresses attitudes, and reveals communicative intentions. The model is typically a composite of form, meaning, and function, and a more comprehensive model of language description. The corpus was collected from the NOW (News on the Web) online corpus, using "Chinese medicine" as the search term, and the period was set from January 1, 2013, to January 1, 2023. After extracting the word indexes and manually eliminating the irrelevant results, we obtained 4623-word indexes to build the "Chinese Medicine Index Corpus" [9-11]. Next, Use the retrieval analysis software AntConc 3.2.4 and set the span to +3/-3 to obtain the collocations of the retrieved terms (MI $\geq$ 3). Since verbs can provide information about behavioral changes and subject-predicate relations, which are essential to the construction of the discourse, and adjectives can expand and elaborate on the information contained in the text, this paper will focus on high-frequency verbs and adjectives in collocations. The second step is to make a critical analysis of the statistical results from two perspectives to reveal the relations between language, ideology and power. One is the analysis of the collocation of TCM. The other is the analysis of the colligation of TCM.

2.3 Analytical Framework

The analytical framework of the three-dimensional structure proposed by Fairclough [12] is the most commonly used framework for critical discourse analysis. The Figure 1 presents the core of this analytical framework:
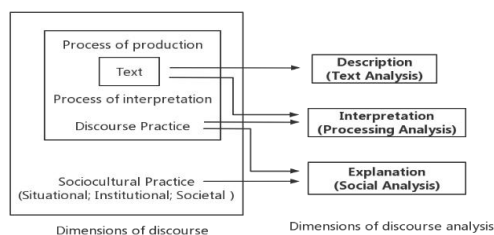
Figure 1. Fairclough's Three-Dimensional Model Framework of Critical Discourse Analysis

Fairclough (1995) proposed three levels of critical discourse analysis based on Systematic Functional Linguistics: description of the structural features of the text, interpretation of the relationship between the text and the discursive practice process, explanation of the relationship between the discursive practice process, and its social context. In the description stage, the data will be collected and processed from the NOW online corpus. In the interpretation stage, the statistical results of TCM will be analyzed to explore the perceptions and attitudes of Western media toward Traditional Chinese Medicine. In the explanation stage, this research will reveal the relations between language, ideology and power behind the discourse on traditional Chinese medicine in overseas English media.

3. Results and Discussion

3.1 The Collocation of "Traditional Chinese Medicine"
3.1.1 Noun Collocation

Table 1. Top 20 Nouns Collocations of "TCM"

NO.	Nouns	Frequency
1	Practitioners	15
2	Acupuncture	14
3	Practitioner	12
4	Treatment	10
5	Acupuncturists	9
6	Market	8
7	Environment	7
8	Clinic	7
9	Species	5
10	Dollars	4
11	efficacy	4
12	Tiger bone	4
13	Rhino horn	3
14	Grassland	2
15	Plants	2
16	Five elements	1
17	Prevention	1
18	Chi	1
19	Moxibustion	1
20	Court	1

Using Traditional Chinese medicine as the nodal word, we extracted 20 high frequency collocations for the nouns, as shown in Table 1.

By categorizing and summarizing the above table, we find that the discursive construction of Traditional Chinese medicine by nouns revolves around the following aspects: Firstly, the professional development of Chinese medicine practitioners. As seen from the Table 1, three of the top five most frequently appearing terms are related to the profession, which shows the attention paid by the Western media to the professional development of Chinese medicine practitioners. Taking practitioners as an example, the most frequent discussions on this topic focus on the number of Chinese medicine practitioners, the content of their work, and the legal regulation, among which the regulation of the behavior of practitioners under the Traditional Chinese Medicine Practitioners Act is mentioned several times. In addition to this, we find restrictions and protests from relevant regulators discussed, for example:

Example 1: A group of Chinese medicine practitioners and acupuncturists are threatening legal action to stop their profession from becoming regulated.

Example 2: The College of Traditional Chinese Medicine Acupuncturists and Practitioners of Ontario, to court last year.

This reflects that the Western media have been more cautious and conservative in their coverage of TCM, focusing mainly on regulating practitioners' conduct and laws. Secondly, reports of herbal ingredients appear in the discussion of the publication. Terms such as tiger bone, rhino horn, and plants in Table 1. Most of the reports involving these terms focus on exploring the impact on biology and nature, as shown in the following examples:

Example 3: The promotion of Chinese medicine only exacerbates its damage to the environment.

Example 4: Fortune-hunters destroy grassland searching for dead caterpillars.

Example 5: On the South African savannah, rhinos lie dead with their horns cut off.

In addition, a number of reports have pointed to the seriousness of smuggling of herbal medicines and the risks associated with the unscientific use of herbal medicines, for example:

Example 6: Genus of plants called aristolochia, used against arthritis, turns out to be carcinogenic.

Example 7: ...ground into a supposed arthritis-curing powder, the appendages fetch thousands of dollars per kilo in TCM's black market in China.

In fact, China has explicitly banned the use of endangered and rare animals as Chinese herbal medicines and has introduced relevant laws and regulations to strengthen the protection and strict management of animals involved in Chinese medicine functions. An analysis of the above high-frequency words shows that the publication focus on the impact of the topic on ecology and endangered animals, reflecting a negative, questioning attitude toward the use of herbal medicines.

Finally, words such as treatment, clinic and acupuncture appear in Table 1, and the discursive constructs of these words revolve around the therapeutic function and therapeutic effects for different symptoms. In the case of acupuncture, it is the most commonly used treatment method in TCM theory and often appears together with related TCM terms such as Dampness, Chi, Moxibustion, five elements, and so on, reporting on the ontological characteristics of TCM. But in terms of treatment effectiveness, the publication notes in a different article that:

Example 8: Most of its treatments are at best a placebo and at worst a harmful distraction from the task of curing people, or downright dangerous.

Example 9: The government has exaggerated the efficacy of Chinese medicine.

Example 10: One aspect of TCM that may be of some help is its focus on prevention rather than cure.

The analysis shows that while the publication remains neutral and objective on the topic as a whole, there is still a conservative, sceptical attitude regarding the efficacy of the treatment.

3.1.2 Verb Collocation

As for the searching and extracting the verb collocates to "traditional Chinese medicine" in the self-built corpus, the author put the word "traditional Chinese medicine" in AntConc and selected "verb" in Collocates, then selected 4 words on either right or left of "traditional Chinese medicine" to make sure "traditional Chinese medicine" with different predicate collocations to be found in the corpus. More than 50 verbs were listed to appear more frequently collocating "traditional Chinese medicine" in the corpus. Then the top 10 candidate verbs of two types, namely, "verbs+TCM" and "TCM+verbs" were extracted, which are listed in Table 2.

Table 2. Verb Collocation List of "TCM" in NOW Corpus

Verbs + TCM	Frequency	TCM + Verbs	Frequency
used	21	treat	19
using	18	used	17
study	13	help	12
started	8	involves	8
practice	6	improve	5
make	6	made	4
inspired	4	cure	2
support	1	become	2
promote	1	offer	1
based	1	applied	1

The 20 high-frequency collocation verbs extracted can be classified into two categories: the first type is a verb that does not have "TCM" as its subject, namely, "verbs+TCM". In this case, the most frequent verbs are "using", "practice", "promote", "support" and etc. And the dominant semantics based on the collocations include "learning TCM" (study) "starting to try TCM" (started), "using TCM to achieve therapeutic purposes" (using, practice), "calling on the government to support/promote TCM" (support, promote), "internationalizing Chinese medicine" (make). By observing the concordances of "verbs+TCM", the semantic preferences generated by the collocation of "verbs+TCM" have relatively positive semantic prosodies as a whole, as shown in the following examples:

Example 11: ...panel has recommended that member states consider using traditional Chinese medicine to help manage Covid-19, saying there is evidence that TCM is beneficial in...

Example 12: There are many studies using Traditional Chinese Medicine (TCM) for pain relief, and the results have been promising.

The second type is the verb with "traditional Chinese medicine" as the subject, namely, "TCM+verbs". In this case, the most frequent verbs are "used", "involves", "improve", "offers", "cure" and etc. The dominant semantics based on the collocations include "TCM uses a certain method to..." (used, involves), "improving the health of a body part" (improve), "helping to cure/prevent certain diseases" (treat, help, offers, cure), "more widely used in countries around the world" (applied). According to the concordances of "TCM+verbs",

the semantic preferences generated by the collocation of it have relatively positive semantic prosodies as a whole, as shown in the following examples:

Example 13: South Korea who tested this herb used in traditional Chinese medicine to help kidney function, found that creatinine levels, urinary protein excretion...

Example 14: ...medicinal value, yet they are used in traditional Chinese medicine to help with ailments ranging from lactation difficulties to arthritis. Kamaldeen Olumoh...

While, there are also some negative attitudes towards TCM such as doubting about effectiveness of traditional Chinese medicine in treating Covid-19 as following:

Example 15: ...there is no scientific evidence to show traditional Chinese medicine can prevent or treat Covid-19 and thus, virus patients...

Example 16: Wang had challenged the efficiency of a government-endorsed traditional Chinese medicine to treat the virus.

In short, these two types of collocations constitute different semantic preferences of traditional Chinese medicine, both of which have positive semantic prosodies, but are also accompanied by some negative semantic prosody.

3.1.3 Adjective Collocation

Using traditional Chinese medicine as the node word, we extracted 15 high-frequency collocated adjectives, which are listed in Table 3.

Table 3. Top 16 Adjective Collocations of "TCM"

NO.	Adjectives	Frequency
1	illegally	10
2	endangered	9
3	ancient	3
4	(not) scientific	3
5	(no) sound	2
6	potential	1
7	positive	1
8	rapid	1
9	popular	1
10	globally	1
11	green	1
12	local	1
13	smoothing	1
14	herbal	1
15	martial	1

After categorizing and summarizing, we found that the discourse construction of Chinese medicine by adjectives mainly revolves around the following three aspects (i.e. three main semantic tendencies):

(1) External descriptive characteristics, such as TCM is ancient and local, and it is also perceived as a green and medical treatment combined with martial arts, as shown in the following examples:

Example 17: Traditional Chinese medicine is an ancient treatment that focuses on acupuncture, herbal remedies and proper nutrition......

Example 18: China is keen to boost traditional Chinese medicine and Chinese martial arts as part of efforts to enhance the nation's so-called soft......

(2) Internal defining characteristics, for example, TCM is a smoothing treatment and herbal medicine is a major part of TCM, as shown in the following examples:

Example 19: Precious incense material used in worship and revered in TCM for its smoothing smoothing and stress-busting qualities...

Example 20: To advising his patients on whether they are able to consume herbal or TCM products.

(3) Evaluative characteristics, such as the fact that Chinese medicine is often considered as being posing a threat to endangered species, illegal, useless, not scientific and no sound evidence that it works by western world, although TCM is becoming more and more popular and has been enjoying rapid growth in China, as shown in the following examples:

Example 21: Animal parts are often considered vital components of TCM. The government bans the use of endangered species......

Example 22: East Asia is the biggest market for ivory and for many illegally traded products, such as animal parts used in traditional Chinese medicine (TCM)—tiger bones, rhino horns, pangolin scales.

Example 23: The practice has its origins in Traditional Chinese Medicine. As with many remedies of such provenance, there is no sound evidence that it works.

Example 24: Very few of its cures come from animals and the official pharmacopoeia has been purged of illegal (and useless) treatments such as rhino horn and tiger bone.

From the above analysis, it can be seen that the first and second semantic tendencies have positive and objective semantic prosody, such as ancient, martial, and soothing, while the third semantic tendency is mainly a negative description of the ontology of TCM, such as

illegally, useless and no sound.

3.2 The Colligation of "Traditional Chinese Medicine"

The main collocations of "Chinese medicine" include "Chinese medicine + is a/an", " Chinese medicine + and/or+ N," and "Chinese medicine + V," and Examples of collocates are shown in Table 4.

Table 4. Common Collocations of "Traditional Chinese Medicine"

Colligation	Examples of common collocations
Chinese medicine+ is a/an	Gold mine; treatment; system; form;
Chinese medicine + and/or+ N	Consequence; Western medicine; Ayurveda; acupuncture;
Chinese medicine+ V	Treat*; has; offers; help*; discovered; takes over

3.2.1 Chinese medicine+ is a/an

Below are examples of word combinations with "Chinese medicine+ is a/an":

Example 25: Chinese medicine is a system of diagnosis and treatment that goes back 2500 years.

Example 26: Traditional Chinese medicine is an ancient treatment that focuses on acupuncture, herbal remedies, proper nutrition and Chinese massage to balance the yin and yang.

Example 27: Traditional Chinese medicine is an ancient form of treatment that typically involves the use of herbal remedies, acupuncture...

Example 28: …he knows that traditional Chinese medicine is a potential gold mine, and he has already scrutinized dozens of manufactures in China.

After observing the word index, it can be seen that this structure mainly serves as a paraphrase of the search terms. When the meaning of a lexical item causes communication barriers or introduces new lexical items into discourse, it will be interpreted in various ways. The meaning of a lexical item is constructed through negotiation among discourse members and has a certain social aspect. When a textual fragment is used to "explain, affirm, modify, discard, or simply supplement" a specific lexical item, these textual fragments are considered as paraphrases of that lexical item. The most common indicator of paraphrase is the use of "is." Traditional Chinese medicine (TCM) is unfamiliar to the Britain, hence it is defined, explained, and popularized. Examples 25-28 define "TCM" as

an "ancient healing system" that primarily employs acupuncture, herbal medicine, appropriate diet, and massage to balance the yin and yang in the human body, emphasizing the maintenance or restoration of balance, harmony, and order through holistic regulation. Example 28 uses a positive phrase by describing traditional Chinese medicine as a potential gold mine. It seems to be a praise for TCM. Clearly, the media discourse includes evaluations of the therapeutic effectiveness of TCM in its paraphrases.

3.2.2 Chinese medicine + and/or+ N

From Table 4, it can be seen that common collocations of "Chinese medicine and/or" include Western medicine, Ayurveda (Ayurvedic medicine), and acupuncture which is other therapy within TCM. By examining the word index, it is evident that TCM is frequently compared with other medical systems. Its association with acupuncture and other therapies is due to the frequent combination of various TCM treatments.

3.2.3 Chinese medicine+ V

Chinese medicine, when used as the subject, is commonly associated with verbs such as "treat*", "has", and "offers" (this study focuses on the three most frequent ones due to space limitations). The following are partial word index examples:

Example 29: When it comes to less invasive healing methods, Chinese medicine has a lot to offer.

Example 30: In recent years, TCM has been enjoying rapid growth in China

Example 31: Once eyed with suspicion for being scientific enough, traditional Chinese medicine might be about to take over the world.

Examples 29 and 30 demonstrate that Chinese medicine can provide various minimally invasive treatment methods, which contribute to enhancing the immune system and complementing other treatment approaches. Example 31 shows that traditional Chinese medicine is gaining prominence globally. This implies that it is increasingly accepted and acknowledged in Western countries and receiving greater attention worldwide. These examples depict Chinese medicine has a great power and is a system that embodies the "knowledge of maintaining human health."

4. Suggestions

This study presents the focus of attention and

acceptance of TCM's development and internationalization in Western society and among the general public. It also indicates that Western media still exhibits a strong bias. While Western media has constructed a relatively safe and effective image of the TCM system, it continues to define it as a complementary therapy to Western medicine, emphasizing the need for further scientific validation. This reveals the predominant social cognition and attitudes towards Western medicine in the Western world. Concerns about the efficacy and safety of Chinese herbal medicine from the Western medical community and the general public have, to some extent, influenced the internationalization process of TCM. Overcoming these negative influences requires joint efforts from medical professionals, TCM-related organizations, and media outlets involved in international communication.

To uphold and establish a positive image of TCM culture and correct misconceptions about TCM, efforts can be made in the following two aspects. Firstly, it is essential to strengthen the international promotion of traditional Chinese medicine (TCM) culture by enhancing global communication capacity and fostering multi-channel dissemination and cooperation to increase its visibility and recognition worldwide. Secondly there is a need to cultivate high-level leaders in the field of TCM. The sustainable development of TCM should be placed in the context of internationalization, focusing on extracting essence, discarding falsehoods, and cultivating TCM professionals with an international perspective who can speak for TCM culture on the international stage.

5. Conclusion

Traditional Chinese medicine (TCM) primarily relies on the dynamic changes in the body's functional information and follows the principles of syndrome differentiation and treatment. By utilizing methods such as acupuncture and herbal medicine, TCM aims to harmonize the body to achieve optimal functional output. The findings indicate that Western media generally construct the image of TCM as tried, accepted, and relatively safe and effective in treatment, although a preference towards Western medical science is evident. Media reports on TCM during the epidemic were politically biased, with a belief that traditional Chinese herbal medicine has certain negative impacts on the ecosystem.

The findings highlight the need for targeted and strategic promotion of TCM culture to overcome biases and foster greater acceptance. They contribute to enhance our understanding of the Western media's portrayal of TCM and its internationalization challenges. Also, it is important to acknowledge the limitations of this study. The analysis focused on a specific timeframe and may not capture the entire spectrum of Western media attitudes towards TCM. In order to advance future research in this field, it is recommended to expand the scope of analysis by incorporating a broader range of media sources and considering diverse perspectives. Additionally, healthcare professionals and policymakers can work to the effective promotion and integration of Traditional Chinese Medicine (TCM) on a global scale.

Acknowledgments

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