

Doctors' Pragmatic Identity Construction Based on *The Doctors*

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Abstract

In recent years, conflicts between doctors and patients in China have occurred from time to time. In the past, some scholars conducted research on the doctor-patient relationship, but there are few studies on doctors' pragmatic identity construction. Therefore, guided by Chen Xinren's pragmatic identity theory, using python as an analytical aid, this paper uses a combination of qualitative and quantitative analysis to conduct a study of doctor's pragmatic identity construction based on a medical documentary *The Doctors*. The main focus of this study is not only the types of pragmatic identity constructed by doctors in the documentary, but also the emotional characteristics of these pragmatic identities. According to this research, the doctors in the documentary *The Doctors* mainly construct expert identity, peer identity, and stress bearer identity. The overall emotional characteristics of the constructed pragmatic identities are neutral, and positive emotions are greater than negative ones. This paper has certain research significance. For one thing, this study provides a new research perspective for doctors' pragmatic identity construction, that is, to study the overall emotional characteristics of the constructed identities. For another, this study can help the public understand the pragmatic identity of doctors to a certain extent, and promote the harmonious relationship between doctors and patients.

Key words: Doctor's pragmatic identity; Pragmatic

identity construction; Sentiment analysis; Discourse analysis

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INTRODUCTION

The doctor-patient interaction has come more into focus during the 1980s (Hoftvedta, 1991, p. 65). The doctor-patient interaction has become an important topic in many disciplines including linguistics and sociology. There are many studies using medical discourse as a research corpus, but there are relatively few studies on the pragmatic identity construction of doctors from a pragmatic perspective. On the one hand, pragmatics has quite mature and rich theories, which is an important perspective for the study of doctor identity construction (Wang, You & Ji, 2017, p. 4170). On the other hand, according to pragmatic identity, identity is a pragmatic resource that can be used by communicators to achieve certain communicative purpose. In addition, the existing studies on doctor's pragmatic identity construction mostly focus on the types of constructed identity and the construction strategy. Moreover, since the research object is discourse, qualitative methods are preferred in the previous studies. Therefore, in terms of research perspective, in addition to paying attention to the types of pragmatic identities constructed by doctors, it is also meaningful to explore the overall emotional characteristics of these constructed identities. In terms of research methods, in addition to qualitative analysis, quantitative analysis can also be adopted with the help of computer technology. Therefore, this is what this paper aims to achieve.

1.1 Research Background and Significance

Nowadays in China, the doctor-patient relationship has become tenser, and there have been some discordant conflicts between doctors and patients. Therefore, it is extremely important to study the pragmatic identities constructed by doctors in the medical context, so that more people can understand the different aspects of doctors' identities rather than solely doctors' professional identities. And this study aims to reveal the pragmatic identities constructed by doctors through discursive practice in order to meet the communication needs. In addition, every word people say has certain emotion to a certain extent. This study will also analyze the overall emotional characteristics of the pragmatic identities constructed by the doctors in the documentary.

This study has certain research significance. First of all, the research corpus has reliable authenticity to a certain extent. This study selected the doctors' utterances in China's large-scale medical documentary *The Doctors* as the research corpus, which is China's first documentary featuring medical staff. And this medical documentary chose six large-scale 3A grade hospitals in China to track and shoot real doctor-patient stories. Secondly, in terms of research methods, this study uses a combination of qualitative and quantitative methods, which can reduce subjectivity to a certain degree. Finally, the study has practical significance. The vast majority of people rely on hospitals and medical systems all the time. The more people know about doctors' discursive practice and pragmatic identities, the more they know about the communication with doctors. This research analyzes the pragmatic identities constructed by doctors and hopes that the public can better know the pragmatic identities of Chinese doctors, thereby promoting a harmonious doctor-patient relationship in China.

1.2 Data and Methodology

This part illustrates data and methodology of this study, mainly focusing on the following items: source of data, research questions and research procedure.

1.2.1 Source of Data

There are many documentaries on medical themes, but most of them focus on the sociality of the subject, and there are few documentaries from the perspective of doctors. *The Doctors* is the first large-scale medical documentary featuring medical staff in China. The filming team started shooting in October 2017 and went deep into six large public 3A grade hospitals in China, tracking the working status of more than 20 medical staff, which lasted more than a year. The documentary has 10 episodes. In this study, the utterances of more than 20 doctors in the documentaries from episode 1 to episode 10 were selected as the research corpus, with a total number of words of 50664. What needs to be pointed out here is that this study only selected the doctors' utterances in the documentary. The purpose of not including nurses' utterances is to

control variables, not to deny the research value of nurses' utterances.

1.2.2 Research Questions

The research questions are as follows:

(1) What pragmatic identities have been constructed by the doctors in *The Doctors* by using discursive practices?

(2) What are the general emotional characteristics of the pragmatic identities constructed by the doctors in *The Doctors*?

1.2.3 Research Procedures

First, all the episodes of the documentary have been downloaded from the Website. Then the author starts to collect the whole discourse by means of subtitle extraction application, and then singles out the doctor's utterances. However, since the words recognized by the subtitle extraction application often have wrong recognition and missed recognition problems, after the text is extracted by the application, the author is further carefully checking and correcting the collected corpus. Each episode in the documentary is about 45 minutes long and has around 4500 words. The final collected corpus reached 50664 words.

Second, this paper uses a combination of qualitative and quantitative research methods on the corpus after audio transcription. And according to the first research question, the qualitative method is used. All the collected data are carefully analyzed word by word and line by line. For the key discourses which concerns both verbal and non-verbal communication, Jefferson's transcript notation (Atkinson & Heritage, 1984) will be adopted, which can restore the corpus content to the greatest extent and highlight the multi-modal features of doctors' communication. And according to the framework of Chen Xinren's (2013) discursive practice which shows the relationship between discursive practice and pragmatic identity, the pragmatic identities constructed by doctors will be explained.

Finally, the sentiment analysis of the entire doctor's discourse will be conducted, revealing the overall emotional characteristics of the pragmatic identity constructed by the doctor. Text sentiment analysis is the process of analyzing, processing, inducing and inferring sentimental subjective text by using natural language processing technology and data mining algorithms (Zhao, Qin & Niu, 2010). This paper uses the medical field in the multi-domain Chinese word segmentation toolkit pkuseg which is developed by the Language Computing and Machine Learning Research Group of Peking University to segment the words and sentences of collected doctors' utterances, and then performs word frequency statistics on the word segmentation results. At the same time, SnowNLP is a library of Python, which can conveniently process Chinese text content and use machine learning-based algorithms for part-of-speech tagging and sentiment analysis. Therefore, SnowNLP is used to obtain the

emotional tendency score of the doctor's discourse, and the word cloud is drawn. Finally, python is used to write the code to achieve the following results. However, computers cannot recognize human emotions from a multi-modal perspective. Therefore, there will be errors in the recognized sentiment value. So, the author combines the multi-modal factors to modify the emotional value obtained by the computer. Finally, the algorithm is designed, with a sentiment value less than 0.4 as negative sentiment, greater than 0.7 and less than or equal to 1 as positive sentiment, and values between 0.4 and 0.7 (including equal to) as neutral sentiment.

2. LITERATURE REVIEW

This part first briefly reviews the approaches for studying medical discourses. Then previous studies on doctors' identities construction from different perspectives will be presented, showing what this study can continue to research.

2.1 Studies on Medical Discourse

Many studies chose the conversations between doctors and patients as the research corpus to study the doctor-patient relationship. Traditionally, doctor-patient studies concerned more on doctor-patient discourse power analysis. For instance, Have (1991) pointed out that the main feature of doctor-patient communication was the asymmetry of power relations between doctors and patients. And May (2007) believed that this asymmetric relationship was mainly manifested in the asymmetry in the distribution of power and knowledge between doctors and patients. Besides, studies on medical discourse in the early period mainly concerned language itself and its structure. For instance, the famous work *Therapeutic Discourse: Psychotherapy as Conversation* (Labov & Fanshel, 1997) in this period studied the doctor-patient interaction, but it mainly concerned the linguistic level, ignoring the constructed identities behind these discourses.

2.2 Studies on Doctors' Identity Construction

However, in recent years, identity construction has been a hot topic which has been studied by many scholars. Therefore, more and more scholars do not put the features of language itself in the first place but see the identity constructed by doctors through the medical discourses. And the following research studied the identity construction of doctors from different perspectives.

Some scholars studied doctor's pragmatic identity construction. Yuan (2013) used medical consultation conversation as the main source of corpus, and discussed the dynamic adaptation of medical consultants when constructing pragmatic identity from the two dimensions: variability and negotiation. He noticed the dynamic and contextual nature of identity construction, not just

confined to the level of language characteristics. Liu (2015) chose Grey's Anatomy as the research corpus to study how American doctors used discourse to construct multiple pragmatic identities in medical communication. Based on the relationship between doctors and patients, she divided the identities constructed by doctors into three categories: doctor-dominated identities, doctor-patient collaborative identities and patient-dominated identities. She aimed to provide a reference for alleviating the doctor-patient relationship in China. However, it is important to note that due to the political, economic, cultural and other differences between China and the United States, it is still controversial whether the relationship between doctors and patients in foreign countries can be used for reference in China. In addition, the selection of TV series as corpus lacks authenticity.

Some scholars studied the construction of doctor's identity from the level of individuals and groups. For instance, Xia (2017) collected the comments of doctors and other netizens on the topic of "Whether Doctor Profession High Investment, Low Return?" initiated by the People's Daily Online Forum as research corpus. Based on Simon's identity and self-aspect model, Xia (2017) investigated the identities constructed by the doctors and the identities constructed by netizens. Through comparison, Xia (2017) found that the identities constructed by doctors and netizens in cyberspace did not meet each other's expectations. To a certain degree, his research provides a way to build a harmonious doctor-patient relationship.

Different from the previous studies in research methods, Ji (2020) recognized the importance of paying attention to multi-modal factor for doctors' identity construction. She (2020) applied multi-modal discourse theory to consider the two aspects of verbal and non-verbal communication.

In summary, the above studies have all studied the doctors' identity construction, and the research perspectives, research corpus, research methods and research questions involved are different, and each has its own advantages and disadvantages. And these studies focus more on the relationship between the communicator's utterances in a specific context and the constructed identity, rather than being limited to language use itself. Based on the previous research, this study not only focuses on what identities the doctors have constructed by using discursive practice, but also the overall emotional characteristics of the constructed pragmatic identities. And it also pays attention to the authenticity of the research corpus and improvement of research methods.

3. THEORETICAL FRAMEWORK

This part introduces the theoretical framework, which is a tool for analyzing doctors' pragmatic identity construction

in medical communication. And this paper will use Chen Xinren's (2013a, 2013b, 2014, 2018) pragmatic identity theory as the theoretical framework to analyze the pragmatic identities constructed by the doctors in the medical context.

Chen Xinren initially mentioned identity construction in specific context in 2004 and formally proposed the term pragmatic identity in 2008. He fully defined it in his *Pragmatic Identity: Dynamic Choice and Discursive Construction*. And according to him (2013, p. 27), pragmatic identity refers to the contextualized self or counterparty identity consciously or unconsciously chosen by language users or the other identity of social individuals or groups which are mentioned by the speaker or author in his discourse. And pragmatic identity focuses more on the communicative attributes of identity than the social or psychological attributes. This definition shows the four characteristics of pragmatic identity. First, pragmatic identity comes from social identities, appears in communication, and is constructed by discourse. Second, pragmatic identity refers to a person's dynamic and online identities in communication from the perspective of pragmatics. Third, pragmatic identity is subject to the influence of contextual factors. And last, the pragmatic identity is consciously or unconsciously constructed by the speaker. And Chen (2013a) believes that the speaker uses appropriate pragmatic way to make his identity consistent with the content and context of the utterance, thereby achieving the purpose of communication. And the dynamic process of pragmatic identity construction can be seen in the figure 1. It shows that in a specific context, in order to meet specific communicative needs, speakers will first choose a specific pragmatic identity, and based on which, the speaker then selects specific discourse to construct the specific pragmatic identity, eventually achieving a certain communicative effect.

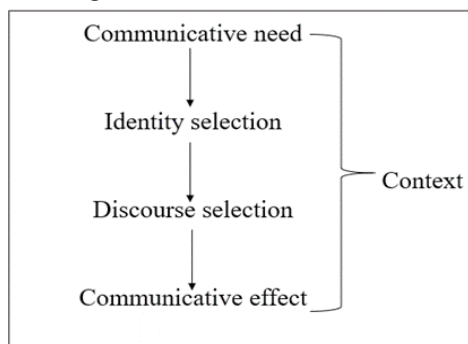


Figure 1
Dynamic Process of Pragmatic Identity Construction
 (Chen, 2013, p. 30)

According to Tracy (2002), the concept of discursive practices is related to discourse but emphasizes the communicators who perform the practice. Discursive practices are talk activities that people do (Tracy, 2013, p. 25). The reason why discursive practice is used instead of

using talk is that it makes us not only consider talking as a simple thing, but also as an activity with many different parts and types (Tracy, 2002). Tracy believes that the relationship between discursive practices and identities is a reciprocal one (2013, p. 25). The identity a person chooses will affect the way he communicates. At the same time, the specific discursive practice one chooses will construct his identity. Based on Tracy's work (2002), Chen Xinren (2013) modified her discursive practice model and proposed 11 types of discursive practice related to identity construction: code selection, style selection, discourse features, discourse content, discourse mode, speech acts, salutation, grammatical choice, lexical choice, phonetic features, and paralinguistic features (Table 1). And in this paper, Chen's discursive practices will be used to illustrate the pragmatic identities constructed by doctors.

Table 1
Types of discursive practice related to identity construction (Chen, 2013, p. 31)

Discursive Practices	Descriptions
Code selection	The language (such as English, Chinese), dialect (such as Mandarin, Northeastern dialect), specific language code, black dialect, etc
Style selection	The style that prompts the identity of oneself or the other party (such as formal style, casual style, etc.)
Discourse features	Discourse features indicating identity relationship (turn-taking)
Discourse content	The content of the utterance that prompts the identity (such as topic, information, opinion, presupposition)
Discourse mode	The way of speaking that prompts each other's identity relationship (direct or indirect degree of expressing thoughts, degree of involvement)
Speech acts	Verbal acts that prompt oneself or the other party's identity (such as criticism, praise, suggestion, announcement)
Salutation	Address that reminds identity
Grammatical choice	Grammatical features that suggest identity (such as personal pronouns, additional interrogative sentences, exclamation sentences)
Lexical choice	Vocabulary that suggests identity relations (such as honorifics, jargon, acronyms, modal particles)
Phonetic features	Voice method to remind the identity of oneself (pitch, speaking rate, sound quality, accent, standard tone)
Paralinguistic features	Means such as gestures, distance, and eyes to indicate identity

4. RESULTS AND DISCUSSION

This part is to discuss the research questions based on the data collected from the medical documentary. First, it will illustrate the types of pragmatic identities constructed by the doctors and the discursive practices they use. Second, according to the data from computer, the author will give the word frequency analysis, word cloud and sentiment tendency classification statistics, showing the overall sentiment characteristics of doctor's pragmatic identities.

4.1 Doctor's Pragmatic Identities and the Discursive Practices

The types of the doctors' pragmatic identities and the choices of discursive practices that made by the doctors will be analyzed. In the documentary, the doctors generally construct 3 kinds of pragmatic identities, which are expert identity, peer identity and pressure bearer identity.

4.1.1 Expert Identity

The expert identity here is usually related to the doctor's profession. And this kind of expert identity usually shows a big difference between doctors and patients, that is, doctors have absolute authority, unquestionable ability and superior expertise in the medical field. At the same time, this identity also reflects the asymmetry of the relationship between doctors and patients. After careful analysis of the corpus, it is found that the doctor's expert identity is mainly reflected in seven kinds of discursive practices, which is shown in table 2. And examples will be chosen to illustrate.

Table 2
Expert identity

Identity	Discursive Practice	Description
Expert Identity	Code selection	Code-mixing
	Discourse features	multiple turns; control turn allocation
	Discourse content	disease-related topics; rhetorical device: analogy
	Discourse mode	must, will, need, should, might
	Speech acts	directive speech acts (questions, commands, suggestions)
	Grammatical choice	pronouns: we; interrogatives and imperatives
	Lexical choice	technical terms

(1) Doctor: In this situation, we call escape rhythm, (.)=which is the dying heart rate.

Family members of patients: ((listening without talking))

Doctor: His heart still has an electrical activity, but it can't contract, ↑understand?

Doctor: He must be unable to live.

Professional jargons or technical terms frequently occurred in doctors' utterances, which can be regarded as a kind of discursive practice to construct their expert identity, which distinguishes them from patients or patients' family members. And the technical terms may be an important factor affecting the doctor-patient relationship. For instance, too many technical terms will affect the patient's understanding of his disease, which will make him anxious. In the example (1), the doctor mentioned technical terms escape rhythm. And he anticipated the asymmetry of patients' medical knowledge and then briefly explained it, which made the whole conversation progress more smoothly and the patient did not interrupt his turn. Besides, doctors are inclined to use many modal words. For example, in

example (1), the doctor used must to show his authority and unquestionability in the field. And in example (3), the doctor used need to command the patient.

(2) Doctor: Are you his family ↑members?

Family members of patients: =>Yes<, yes ((nodding)).

Doctor: Did he still have a fever these two↑days?

Family members of patients: Yes.

Doctor: Does he have much↑phlegm?

Family members of patients: Yes.

Doctor: The situation is not good: and blood oxygen is only coming up ↑now. I'll give him pure oxygen. His situation is worse (0.5).

Doctor: Do you know what I↑mean?

Family members of patients: Hum: , yes ((nodding)).

(3) Doctor: Bend down (0.5). You **need** bend down. Bend:.

Patient: ((Bend down))

Doctor: ((Your spine)) looks like a hill.

Doctor: Bend down (0.5). >Then< bend down again.

Patient: ((Deepen the bending movement))

Doctor: Okay (.), ↑stand up.

Patient: ((stand up))

From Example 2 and Example 3, it is easy to find the doctors' multi-turn features in the conversation and doctors' length of turns are longer. Moreover, the entire discourse content is developed around the patient's disease. The doctor controls the turn allocation, starts, develops and controls the topic of the interaction. Moreover, in the entire corpus, there are generally two ways for doctors to initiate topics. One is to raise topics by asking questions, like example 2. In this case, doctors usually raise topics to diagnose the patient's condition. The other is to directly raise the topic through the announcement, such as an announcement of the patient's condition in example 1 or requesting the patient to cooperate with the examination in example 3.

Interrogative and imperative sentences are the most frequently used types of sentences by doctors. Sometimes, patients cannot systematically describe all aspects of their illness. In order to obtain more effective information and ensure the smooth progress of the entire conversation, doctors usually use many interrogatives to actively obtain the information they want to know. The more obvious characteristic is that doctors are more inclined to choose yes or no interrogatives to start conversation and obtain information, which also shows the authority of their expert identity. For instance, in example 2, the doctor chose four yes or no interrogatives, and accordingly the patient's family member gave four "yes". And in the whole corpus, doctors are inclined to use yes or no interrogatives like "Do you understand what I mean" in Example 2 to make sure whether the communication with the patient is effective. If the patient gives an affirmative answer, the doctor will continue the conversation to the next topic. If the patient gives a negative answer, the doctor will return to the topic

just now and give a brief explanation. At the same time, imperative sentences are also frequently used by doctors to command or request. They adopt the imperatives to conduct a smooth and well-organized diagnostic process, which can save time and speed up the diagnosis process. The imperatives can reflect the doctor's expert identity and the patient's execution of the action reflects the patient's identification with the speaker's expert identity. For example, in example 2, the doctor used 6 imperatives to command the patient to bend over and stand up. And out of trust in the doctor's knowledge and authority, the patient did not interrupt the doctor's turn, and completed the action according to the doctor's instructions. Therefore, interrogatives and imperatives are two main types of sentences used by doctors to construct their expert identity. Also, this kind of discursive practice is an efficient means for doctors to construct expert identity in the medical context. Since doctors face a huge number of patients every day, interrogative sentences and imperative sentences can help doctors more efficiently and quickly diagnose. And at the same time, they can grasp the initiative to a certain extent and alleviate the problem of patients' inability to accurately describe diseases due to lack of medical knowledge.

Another discursive practice which is used by doctors to construct their expert identity is analogy. Analogy is the most used rhetorical device in the entire corpus. Due to the asymmetry of pathological knowledge between doctors and patients, doctors cannot pass on their years of medical knowledge to patients at once. Therefore, the doctors chose the analogy rhetorical technique, based on the similarity between two different things or principles, using the characteristics of the vehicle to modify and describe the ontology through association, so as to explain the pathological knowledge. From the following two samples extracted from the whole corpus, we can see that in sample 1, doctors use the process after a volcanic eruption to analogize the need for a period of recovery after eliminating an aneurysm. And in sample 2, the doctor used the congestion of the two rivers familiar to the patient to explain the patient's disease. Doctors can use this kind of discursive practice to construct their own expert identity, and at the same time reduce the distance between doctors and patients caused by inequality of medical knowledge.

Sample 1: In the case of this **aneurysm**, it is theoretically like a volcanic >eruption<. This time, we have taken off the volcano ((make gestures with both hands)). And↑you think just taking the volcano off can make patient recover. ↑But think about the volcanic ash in the sky after the eruption(.),↑right? What about that ↑magma(.)? Then↑you have to wait for it to disappear. Understand?

Sample 2: It is the place where the **bile** and the **fluid of pancreatic** flow down(.) and where they meet are blocked ((body gestures)). Just like the water from the Qiantang River(.), and the water from the Lanxi River(.),

where it flows out, some places are ↑**blocked** ((body gestures)). The bile can't flow out, so the liver is swollen. It's swelling, you will vomit↑easily when you eat ((eye-contact with patient and his family member)).

4.1.2 Peer Identity

In the medical context, it is not always a serious, life-and-death occasion. Doctors usually use discursive practice to construct peer identities in order to narrow the distance with the patients and improve the degree of cooperation with the patients, making the entire treatment process smoother. And the most frequently used discursive practices can be seen in Table 3. And some examples will be chosen from the corpus to illustrate.

Table 3
Peer identity

Identity	Discursive Practice	Description
Peer Identity	Code selection	Dialects
	Style selection	Casual style, for example joking
	Discourse content	Private discourse
	Speech acts	Expressives (expressing praises and thanks), Assertives (statement),
	Grammatical choice	the pronoun "we"
	Phonetic features	Choose the patient's hometown accent, or the tone is relaxed and gentle
Paralinguistic features	smile and other nonverbal communication	

(4) Doctor: Of the three of you, who is wearing red underwear ((Smiling and looking at the patients))?

Doctor: Did you wear red underwear (heh) ((smile))?

Patient: No (heh) ((smile)).

Doctor: He bought one ((pointing to the patient in bed 14)). Bed 14 bought one (heh).

Patient: Why buy red underwear (heh)?

Doctor: That will help you get better ↑>soon<.

Patient: I'll buy it ((smile)).

Doctor: I'm ↑joking with >you <. You will be cured even if you don't buy it(.). ↑Understand (heh)((smile))?

Patient: Okay (heh).

Doctor: Lose weight after you go home. The weight reduction is very important (.), ↑okay?

In Example 4, the doctor chose to make a joke to further shorten the psychological distance between the two parties and promote the intimate relationship between himself and patients. This conversation happened when the doctor was conducting a ward visit. The doctor asked the patients if anyone was wearing red underwear. In the Chinese concept, red can ward off evil spirits and will bring people good luck. The doctor was joking with the patient in a witty and humorous way that wearing red underwear can help them quickly recover. In this way, the doctor chose the casual style to construct peer identity which can shorten the distance between the doctor and the patient in a relaxed atmosphere. At the same time, most of these patients are seriously ill, and the peer identity constructed by doctors

using this discursive practice can relieve their worries about the disease. "I'm joking with you. You will be cured even if you don't buy it" can give patients hope and support to overcome the disease in a warm way.

(5) Doctor: In fact, we three parties (0.5), our doctors including our medical care, in fact, we have become comrades in the same trench ((saying firmly)).

Patient's Family Member: Yes ((Affirmed three times)). The purpose is the same ((nodding)).

Doctor: Yes, right (:), The purpose is the same ((nodding)).

Doctor: And each of ↑us has a ↑different division of labor, ↑right?

Patient's Family Member: Yes ((nodding)).

(6) Doctor: It is unfortunate to be sick. But **we** should also try **our** best and work together, ↑okay?

Patient's Family Member: Thank you very much.

Doctor: You're welcome and I will try my best ((shaking hands with the patient's family, and patted the patient's arm with his hand)).

Pronouns are one of the discursive practices that speakers often use to construct identity. The use of pronouns plays a key role in the construction of self-identity and the identity of others. According to Bramley (2001), we cannot simply regard pronouns as a means of expressing person, number and gender in traditional grammar, but should examine the identity they construct in an interactive context. In example (5) and (6), it is easy to find that the doctors use we-statement rather than you-statement to address the relationship between the patients and himself. The personal pronoun "you" is exclusive, while the personal pronoun "we" is inclusive. The use of the pronoun "we" or "us" means that the doctor and the patient are in the same team fighting the disease together, rather than on opposite sides. The doctors and the patients are friends and in a cooperative relationship. It makes the patients psychologically feel that they and the doctors are in an equal and cooperative relationship rather than an unequal relationship of power, and also can strengthen the patient's trust and closeness to the doctor.

4.1.3 Pressure Bearer Identity

In addition to the identity of experts and peers, another representative pragmatic identity is the pressure bearer identity. Doctors is a high-pressure profession, dealing with life and death every day, under pressure from all aspects. Through sorting and categorizing the corpus, it is found that in this documentary, when doctors construct the pressure bearer identity, the main characteristics of discursive practice are: discourse content (pressure-related topic), speech acts (assertives), grammatical choice (personal pronouns I and we) and paralinguistic features (rich in non-verbal communication). And the pressure faced by doctors mainly comes from four aspects: the pressure from the patient's (including patient's family members) not understanding, the physical and mental pressure caused by high-intensity work, the pressure on

the patient's disease and the pressure of life (see Table 4).

Table 4
Pressure bearer identity

Identity	Source of stress	Sample
Pressure from patients' not understanding		There was an old lady (.) who was a family member of an old man (.) She said (.), "I want to tear you to ↑pieces<(0.5)". You ↑know (0.5)((helpless facial expression))? She said I (.) killed her husband (0.5). The old man and I had a very↑good relationship in the ward. He is also very kind, and we communicated very ↑well. I ↑also don't want hyperperfusion (hyperperfusion syndrome) to occur.
		Irregular work and rest (.) and heavy workload every day. I worry that sometimes I will die suddenly. But (.) I can't die. My family's responsibilities have not been fulfilled (.), and my own medical responsibilities have not been fulfilled (.). I am now the chief physician, and it will take us almost ↑25 years to be able to cultivate one like this. I am 44 now, and if↑I die, it would be a ↑waste of national resources (heh). That is to say, we have ↑so many doctors (.) who have worked for ↑15 years, which gains nothing↑(.). We didn't let a↑patient survive(.).↑So I didn't↑want to be a hematologist at the time. WHY? (.) Patients' pale↑and feeble↑face. Everything was ↑miserable. There was no↑laughter in the ward(.). So, it is ↑difficult for me to continue.
Pressure Bearer Identity	Physical and mental stress caused by high-intensity work	Both of us are very busy at work. We should hurry up↑and spend time with our son (.), just to make up for the regret that we rarely spend time with him.
	Pressure on the patient's disease	

In terms of pressure from patients' not understanding, doctors know the value of life and want to do their best to treat patients. But sometimes, in the face of natural laws, doctors can do nothing. Some patients' family members will pin patients' entire life hopes on the doctors, but they cannot accept the consequences of failure. Therefore, the patient's incomprehension will put pressure on the doctors. In terms of physical and mental stress caused by high-intensity work, every doctor in the documentary is overworked. They have to diagnose a large number of patients and perform surgeries that exceed the limit of the body every day. For some doctors, in addition to treating patients, they are also responsible for teaching affairs. In terms of pressure on the patient's disease, doctors actually have tremendous psychological pressure. They will suffer the negative emotions brought about by the patient's death without medical cures. As far as life pressure is concerned, it is mainly reflected in the guilt caused by the lack of family contributions.

In summary, the doctors in the documentary mainly use discursive practices to construct three kinds of pragmatic identities, which are expert identity, peer identity and pressure bearer identity. And the discursive practices used for constructing different types of identity are not same.

4.2 The General Emotional Characteristics of Doctors' Pragmatic Identities

This part mainly uses computer to perform word frequency analysis, word cloud and sentiment tendency classification statistics on the collected corpus, so as to better understand the overall emotional characteristics of pragmatic identities constructed by doctors.

4.2.1 Word Cloud and Word Frequency Analysis

After using the multi-field Chinese word segmentation toolkit pkuseg in the medical field developed by the Language Computing and Machine Learning Research Group of Peking University to segment the collected doctors' utterances, the results of word frequency statistics are obtained. Word frequency analysis is the useful means to find the focus of the discourse and find the key words of the discourse. Counting the word frequency of the doctors' discourse can help us discover vocabularies that represent the central idea of the doctor's discourse content, and provide help for a deeper understanding of the emotional characteristics doctor's identity in the discourse. And the word cloud (Figure 2) in Chinese version is generated. In the word cloud, the larger the word is, the more often it appears.

Based on the word frequency results and word cloud, the top ten words are selected to make the following Table 5. According to the results, we can find that the most frequently used word by doctors is we-statement. Because the discourse of this statistics is Chinese, the subjective and objective "we" in Chinese are both the same word, so it is translated into we-statement here. The we-statement in the corpus is usually used to refer to the inclusive and cooperative relationship between doctors and patients and the relationship between doctors themselves. Some other verbs and adverbs in table 5 are related to describing diseases or doing examinations. At the same time, it is worth noting that "patient" appeared 152 times, ranking 7th, which is the second most common noun besides "operation", which shows that the doctor's utterances and activities in the medical context are always patient-centered. At the same time, it also reflects the doctor's address to the patient to a certain extent. The noun "doctor" appears 93 times, ranking tenth, which reflects how the doctors call themselves in the documentary.

Table 5
Word Frequency Analysis

Rank	Words	The number of occurrences
1	We-statement (we, us)	441
2	do	221
3	both	207
4	very	195
5	good/ well	191
6	operation	161
7	patient	152
8	will	134
9	see	102
10	doctor	93



Figure 2
Word Cloud in Chinese Version

4.2.2 Sentiment Tendency

The sentiment tendency of doctor's discourse is obtained by using SnowNLP which is the class library of Python. But due to the disadvantage of machine analysis itself, there are errors in some emotional judgments. In real life, the expression of a person's utterances can never only be understood from the literal meaning, but also needs to be judged by combining the characteristics of multimodality. Therefore, on the basis of the obtained sentiment analysis score results, the author changes some scores according to the multimodal characteristics of the discourse. And the author defines a score less than 0.4 as negative emotion, greater than 0.7 and less than or equal to 1 as positive emotion, and between 0.4 and 0.7 (including equal to) as neutral emotion. Finally, figure 3 is obtained by using python to write code. According to figure 3, we can find that the neutral emotions account for 52%, the positive emotions of the entire discourse account for 34%, the negative emotions account for 14%. And positive emotions are far greater than negative emotions. And neutral, positive and negative emotions roughly correspond to the doctor's expert identity, peer identity, and pressure bearer identity.

According to the analysis, the utterances with positive scores are usually shown that the doctors encourage and comfort the patient, as well as utterances related to the doctor's positive qualities. Discourses with negative emotions are mainly reflected in the stress caused by the high workload of the doctors, the pressure caused by the difficult disease, and the sadness caused by doctors' empathy for the patient's disease. And neutral emotions are mainly related to those activities that require calmness and objective qualities of doctors such as the diagnosis and operations.

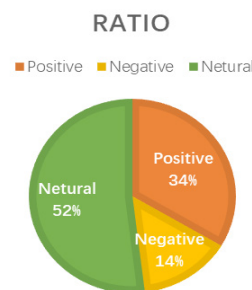


Figure 3
Sentiment tendency classification chart

5. CONCLUSION

This study selects the discourses of more than 20 doctors in *The Doctors* which is the first documentary featuring medical groups in China as research corpus. Chen Xinren's pragmatic identity theory is chosen as the main framework to discuss the types of pragmatic identities constructed by doctors and python is used as an analytical tool to analyze the identities' overall emotional characteristics. Research shows that the doctors in the documentary mainly use discursive practices to construct three types of pragmatic identities in the medical context, namely, expert identity, peer identity, and pressure bearer identity. And through quantitative research, this study finds that the emotional characteristics of doctors in the documentary are generally neutral, and positive emotions are greater than negative emotions. And these three kinds of emotions roughly correspond to doctors' expert identity, peer identity and stress bearer identity.

This research has certain research significance. First, the research corpus is authentic and worthy of research. The photographers of *The Doctors* used the field research to collect the materials for more than one year, which can guarantee the authenticity of the doctor's utterances to a certain extent. Secondly, this study uses a combination of qualitative and quantitative research methods. Judging from the current studies, qualitative research is the main focus, while quantitative research is rare. Jiang (2019) believes that this is because pragmatic identity theory mainly uses discourse as the object of analysis. Therefore, the combination of qualitative and quantitative research methods can enrich the research scope of identity construction to a certain extent. Finally, the research question and perspective in this study is somewhat innovative. In addition to paying attention to the type of pragmatic identity constructed by the speaker, this research also focuses on the overall emotional characteristics of the constructed pragmatic identity.

At the same time, this research has certain shortcomings. First, the corpus selected in this study is too large, so the explanation in some aspects is not detailed enough. Second, there are very few computer libraries that use doctor-patient dialogue to build models. Therefore, in certain emotional judgments, the author needs to make corrections based on the multimodal characteristics of the discourse. Finally, although the author has noticed that the previous studies neglected the multi-modal characteristics in the communication process, the explanation of the multi-modal factors in this study is still insufficient. It is hoped that future research can make up for these shortcomings and fully explore the multimodal factors in communication.

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Appendix

Jefferson's transcript notation (Atkinson & Heritage, 1984)

(0.6)	Length of pause measured in tenths of a second.
(.)	Micro-pause, less than two-tenths of a second.
why.	Full stop: falling intonation.
why,	Comma: slightly rising or 'continuing' intonation.
why?	Question mark: rising intonation.
↑ why	Arrow: very rapid rise in intonation.
°why°	Degree signs: the volume of talk is less than the surrounding talk.
WHY	Capitals: marked rise in volume.
<u>why</u>	Underlining: speaker's emphasis or stress.
>why<	Word in > < indicates faster pace than surrounding talk.
<why>	Word in < > indicates slower pace than surrounding talk.
why=because	Equals sign: words are latched, that there is no hearable gap.
w[h y]	Square brackets: onset and offset of overlapping talk.
[bec]ause	
(why)	Word in brackets: the best possible hearing.
.hh	This indicates an in-breath, without dot, an outbreath.
huh/heh	Laughter.
wh:::y	Colons: sound-stretching.