

# Interpersonal Meaning in Doctors' Interrogatives From the Respective of Systemic Functional Grammar

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### Abstract

*Objectives*: To carry out a systemic functional research on the interpersonal meaning realized in Chinese doctorpatient conversations from the perspective of doctors' choice of interrogative.

Methods: Data were randomly collected from conversations between doctors and outpatients in one hospital in China, while being analyzed in terms of the interpersonal meaning from the SFL perspective. Statistical analysis was conducted by using SPSS 17.0.

Results: (1) Interrogatives are also favored in doctorpatient conversations in China as compared with findings from other studies (Brody, 1992; Smith, et al., 1998; Meeuwesen, et al, 2007), but Chinese doctors dominate in the whole process of diagnosis and treatment, exerting great influence on the patient. (2) Yes-no interrogatives are favored more by doctors practicing Traditional Chinese Medicine than by those in other clinic departments. (3) Both yes-no interrogatives and alterative interrogatives can be quickly responded to, but doctors in China usually ignore this, unaware of the importance of building harmonious interpersonal relationships. Practice implications: This research may enhance the efficiency of treatment and decrease medical disputes caused by bad communications.

**Key words:** Interrogative clause; Doctor-patient conversation; Interpersonal meaning

#### INTRODUCTION

One of the functions of language is to construe the speaker's status, identity, attitude, emotion, and his appraisal towards a topic, which is discussed under the interpersonal function in Systemic Functional Linguistics (SFL) (Halliday and Matthiessen, 2004 & 2014). Typically, "language itself is the commodity that is being exchanged" (Halliday and Matthiessen, 2014, p.138), and when language is exchanged as commodity, resources of interpersonal interactions are crucial to meaning construction. Interpersonal interactions, which can be best reflected through interpersonal meaning, is usually explored by means of the systems of mood and modality (Halliday and Matthiessen, 2014; Thompson, 2004; Martin and White, 2005).

Mood system is the important resource to show how interpersonal meaning is realized through clauses. In conversations, each clause realizes at least one speech function through choices of Mood. The basic Mood types include the indicative and the imperative, where the indicative is re-categorized into the declarative and the interrogative. Doctor-patient conversations as a special type of institutional conversation carry many interrogatives, embodying information with particular meanings.

As was found, a doctor-patient conversation has the typical sequence as follows: Opening  $\rightarrow$  Problem presentation  $\rightarrow$  Data gathering  $\rightarrow$  Diagnosis  $\rightarrow$  Treatment  $\rightarrow$  Closing (Heritage and Clayman, 2010, p.105). In this sequence, the interrogative Mood (i.e. questioning) is frequently used to facilitate the exchange of information. When a speaker chooses the interrogative Mood, he is taking on the role of a seeker of information and is asking the listener to supply information required (Halliday and Matthiessen, 2014, p.134). As the conversation progresses, the doctor and patient choose different interrogative clauses for specific purpose. Interrogatives are the important resources for doctors and patients to

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acquire new information on their sides respectively. Research has found that in most cases, doctors use about 20% more interrogatives when talking with a patient than when in other cases (Frankel, 1984; Frankel, 1990; Street, 1991; Ten Have, 1991; Roter and Hall, 2006; Graber, et al, 2008). Research also found that in advice-giving in an American internet health column offering advice is not a matter of giving straightforward imperatives for instruction, but a complex interplay of linguistic realizations of different discursive moves (Locher, 2006). It should be noted that in some special context (e.g. doctor and Alzheimer patient), the commonly-defined interrogatives requesting information or action may have to be redefined. This we have considered but have not treated in the present study, for the patients related are not Alzheimer patients.

As to doctor-patient communication in the Chinese context, it has been found that good doctor-patient communication would improve the service quality of the hospital (Zhao & Wang, 2013). In terms of specific departments, Psychosomatic Medicine (PM) and Biomedicine (BM) departments should learn from TCM departments to be empathic, to manage to establish longterm relationships with their patients (Wu, et al, 2015). In terms of methods, patients expressed moderate enthusiasm for Patient-centered Communication (PCC) (Xu, et al. 2015) and more methods need to be considered. Liu, Rohrer, Luo, Fang, He & Xie (2015) found that Chinese doctors and medical students' communication skills can be enhanced through CST (communication skills training); and doctor-patient communication starts from medical students (Wang, 2013). In terms of factors, Chen, Huang, Chang, Chen, Liou & Yang (2015): examined the big influence of gender on authority of outpatient doctor-patient communication. Some studies also focus on questioning. For example, Tsai studies how birth/death information is presented in spontaneous discourse and found that face-threatening effects associated with death are balanced by posing an ambiguous question (Tsai, 2010).

As to interrogatives from the systemic functional perspective, no study has been found. The purpose of this study is therefore to explore the characteristics of doctor's choices of interrogatives and how interpersonal meaning is constructed by such choices in doctor-patient conversations in the Chinese context.

# 1. TYPES OF INTERROGATIVES IN CHINESE

In terms of SFL, Subject and Finite (operators) in a clause may be combined to form Mood, which conveys the negotiability of a proposition or a proposal. The Finite realized by a verbal group expresses temporality or modality. It is usually believed that there is no distinction between finite and non-finite in Chinese, and adverbial expressions are used to express modality, temporality and negotiability. In other words, functions of Mood are conveyed by adverbials.

The realizations of the declarative and imperative Moods in Chinese are much similar to those in English, but the interrogative Mood in Chinese is quite different from that in English. Interrogatives in English are categorized into yes-no interrogatives for polar questions and WH- interrogatives for content questions. The interrogative Mood is formed out of a Finite followed by a subject in yes-no interrogatives. In WH- questions, the WH- element conflates with the subject. In Chinese, the Mood of both yes-no interrogatives and WHinterrogatives is composed of "a subject plus a predicate".

Interrogative clauses in doctor-patient conversations in Chinese can be put into three types (Table 1): (1) WH- interrogative; (2) yes-no interrogative, including interjection interrogative (II), additional interrogative (AI) and declarative clause with rising tone (DR); and (3) alternative interrogative, including compound alternative (CAI) and A-not-A interrogative/repeating interrogative (A-not-A/ RI).

Table 1

Types of Interrogatives in Chinese Doctor-Patient Conversations

Туре		Example
W H - interrogative		你疼了好久? (How long have you had the pain?)
	II	这地方痛吗? (Do you feel pain here?)
Y e s - n o interrogative	AI	要去清个创,好吧? (You need to clean the wound, all right?)
	DR	这地方痛? (You feel a little pain here?)
Alternative	CAI	自天咳还是晚上咳? (When did you cough, day or night?)
interrogative	A-not-A/ RI	你只是晚上咳嗽,是不是? (You only cough at night, right?)

## 2. METHODS

#### 2.1 Data Collection

On-site real conversations between doctors and outpatients of a hospital in China were collected, which involve 11 clinical departments: four medical departments (neurology, respiratory, gastroenterology, and cardiovascular), three surgical departments (hepatobiliary surgery, general surgery, and orthopedics department), three specialist departments (dermatology department, gynecology department, and oncology department), and the department of Traditional Chinese Medicine. Altogether 120 conversations were recorded and then transcribed.

#### 2.2 Data Analysis

The raw data were transcribed according to Jefferson's conversation analytical categories (Jefferson, 1974). One thousand and forty-two (1042) interrogative clauses from doctors were screened out for four different clinical

departments, focusing on the types of questioning and move (Table 2).

In the process of doctor-patient conversations, interrogatives were often raised in three phases: Move 1 (doctors' interrogation for social and historical information), Move 2 (doctors' interrogation for diagnosis), and Move 3 (doctors' interrogation for treatments). Discrepancy was compared with chi-square test. Statistical analysis was conducted by using SPSS 17.0, in which a two-tailed probability value of less than 0.05 was considered significant.

## 3. RESULTS

#### 3.1 General Information

Table 2 below shows the general data In terms of interrogative type and specific department.

Move		Me	Medical depts.		Surgical depts.		TCM depts.		Specialist depts.		ots.	Total		
Туре		M1 M2 M3		M1 M2 M3		M1 M2 M3		M1 M2 M3		1000				
Wh-		29	56	3	28	40	0	11	26	4	51	77	10	335
Yes-no	II	27	24	3	9	14	0	14	59	18	38	50	29	285
	AI	14	12	2	13	13	2	6	8	4	22	18	5	119
	DR	12	9	7	3	10	28	4	13	5	0	6	4	101
	CAI	4	3	0	0	3	0	1	0	2	1	1	2	17
Alternative	A-not-A/ RI	25	36	9	11	17	6	0	8	2	30	24	17	185
Total		111	140	24	64	97	36	36	35	35	142	176	67	

Note: TCM=traditional Chinese medicine

# 3.2 Doctors' Interrogative Choice in Terms of Clinic Department

In each clinic department, yes-no interrogatives were most frequently used by doctors (40%) (Table 3). Usually, a yes-no interrogative belongs to closed questions that restrict the options for answering and required information are quickly provided (Ibrahim, 2001). They may constrain topics as a means of controlling the direction of the conversation and asserting power. Thus, having a higher frequency of yes-no interrogatives means that doctors are leading the direction in doctor-patient conversations. For the three major clinical departments (medical, surgical, and specialist), there was no obvious discrepancy among the choice of interrogative type. However, an obvious discrepancy appears in the Department of TCM, where the frequency of wh-interrogative and alternative interrogative are 22.2% and 7.0% respectively, whereas the frequency of yes-no interrogative is up to 70.8% (Table 3). The discrepancy is statistically significant ( $\times$ <sup>2</sup>=57.255; p=0.000<0.05).

#### Table 3

Table 2

Frequency of Doctors' Selection of Interrogatives in Terms of Clinical Departments

Туре	Medical depts	Surgical depts	TCM depts	Specialist dets	χ <sup>2</sup>	р
Wh- interrogative	88 (32.0%)	68 (34.5%)	41 (22.2%)	138 (35.8%)		
Yes-no interrogative	11 (40.0%)	92 (46.7%)	131 (70.8%)	172 (44.7%)	57.255	0.000
Alternative interrogative	77 (28.0%)	37 (18.8%)	13 (7.0%)	75 (19.5%)	-	

# **3.3 Doctors' Interrogative Choice in Terms of Move**

Doctors choose to use the interrogative Mood most often in Move 2, less often in Move 1, and least often in Move 3 (Table 4). In Move 2, doctors need to obtain information about patients' symptoms to proceed with accurate treatment. Interrogative Mood can effectively work for doctors' diagnoses, so it is used most frequently. Yes-no interrogatives are used frequently in each move. Wh-interrogatives are used frequently both in Move 1 and Move 2, but seldom selected in Move 3 (Table 4). This discrepancy is statistically significant ( $x^2$ =58.158; p=0.000<0.05).

Туре	M1	M2	M3	χ2	Р
Wh- interrogative	119 (30.28%)	199 (37.76%)	17 (10.49%)		
Yes-no interrogative	162 (41.22%)	236 (44.78%)	107 (66.05%)	58.158	0.000
Alternative interrogative	112 (28.50%)	92 (17.46%)	38 (23.46%)		

Table 4Frequency of Doctors' Interrogative Selection in Terms of Move

Among the three types of yes-no interrogative, interjection interrogative was utilized most by doctors, especially in Move 2 (Table 5). Because additional interrogatives can enhance a closer interpersonal relationship between doctor and patient, this interrogative is more desirable both with type II (interjection **Table 5**  interrogative) and type DR (declarative clause with a rising tone). However, data suggests that type II is underutilized by doctors in Move 3, and type DR in Move 1. The discrepancy is statistically significant ( $x^2 = 48.265$ ; p=0.000 < 0.05).

Frequency of Doctors	'Yes-No Interrogative	Selection in Terms of Move

Туре		M1	M2	M3	χ2	Р
	II	88 (30.9%)	147 (51.6%)	50 (17.5%)		
Yes-no interrogative	RT	55 (46.2%)	51 (42.9%)	13 (10.9%)	48.265	0.000
	DR	19 (18.8%)	38 (37.6%)	44 (43.6%)	_	

Alternative interrogatives, including compound alternative and A-not-A interrogative/repeating interrogatives, are very important questioning patterns in everyday Chinese, however they appeared at the lowest frequency in each move in the present study. Moreover, discrepancy between the two types of alternative interrogatives are not statistically significant ( $\chi 2= 0.469$ ; p=0.847>0.05 (see Table 6).

Table 6		
Frequency of Doctors	'Alternative Interrogatives in	Terms of Move

Туре		M1	M2	M3	χ2	Р
Alternative	CAI	6 (35.3%)	7 (41.2%)	4 (23.5%)	0.4 <i>C</i> 0.1	0.045
interrogative	A-not-A/RI	66 (35.7%)	85 (45.9%)	34 (18.4%)	0.469*	0.847*

\* Indicates results of Fisher's Exact Test (because of one frequency less than 5).

#### **3.4 Patients' Interrogative Choice**

Among the 120 doctor-patient conversations, only 313 interrogative clauses were obtained from patients. No statistically significant differences can be found between doctors' and patients' interrogative choices ( $\chi 2=5.117$ ; p=0.077>0.05 (Table 7). Similar to doctors, patients

preferred to select yes-no interrogatives during doctorpatient conversations. Data show that, to some extent, they did not care whether they should build a good relationship with doctors. Much worse, they seemed to show insufficient respect for doctors.

#### Table 7

Comparison Between Doctors' and Patients' Interrogative Choice

	Wh-interrogative	Yes-no interrogative	Alternative interrogative	χ2	Р
Doctor	335 (32.15%)	505 (48.46%)	202 (19.39%)	5.117	0.077
Patient	81 (25.88%)	172 (55.27%)	60 (19.17%)	5.117	0.077

#### 4. DISCUSSION

#### 4.1 Yes-no Interrogatives in Chinese Doctor-Patient Conversation

Doctors are much concerned with efficiently gathering relevant and sufficient information for better diagnosis, but it does not mean that doctor-patient conversations need not care about personal interrelationships other than information. The high frequency of yes-no interrogatives makes the conversation cold and indifferent. Moreover, yes-no interrogatives are not much helpful for gathering information unexpected by doctors. Therefore, choosing too many yes-no interrogatives should not be the desirable way for doctors. The following is a typical example of doctor's using of yes-no interrogatives.

Example 1:

Turn	Speaker	Туре	Instance
1	D	WH-inter	你怎么不好?
1	Ъ	vv 11 miter	(What's wrong with you?)
2	Р		经常口干。 (Lom always yory thirsty)
		Yes-no	(I am always very thirsty.) 口干是吧?
3	D	inter.	(Very thirsty, right?)
4	Р		噢。(Yes)
5	D	Yes-no	心烦吗?
5	D	inter.	(Always irritable?)
6	Р		心烦 (No)
7	D	Yes-no	想吃饭吗?
/	D	inter.	(Do you have good appetite?)
8	Р		吃一点饭 (No)
9	D	Yes-no	你觉得经常热吗?
7	D	inter.	(Do you always feel hot?)
10	Р		脚和手热。 (Yes my hands and fast all fast hat)
	_	Yes-no	(Yes, my hands and feet all feel hot) 你经常疲乏吗?
13	D	inter.	(Do you always feel tired?)
14	Р		乏困一点。(A little)
15	D	Alternative	晚上睡眠好不好?
15	D	inter.	(You sleep well or not well?)
16	Р		不好。(Not well.)
		Yes-no	你量过血压吗?
17	D	inter.	(Have you taken your blood pressure
	_		lately?)
18	Р		量过,正常的。(Yes, it is normal.)

Note: D=doctor; P=patient; inter.= interrogative.

The example above was taken from the doctorpatient conversation in the TCM department. In this conversation, the doctor chose yes-no interrogative six times. He controlled the topic chain according to his own need: inquiring information about the patient's feeling and "blood pressure". Though yes-no interrogative helped him quickly obtain some of the patient's medical history and symptoms, he lost the chance to build a good interpersonal relationship with the patient. The patient seldom had the chance to give any other new information and could only follow the doctor's discourse manipulation.

Doctors in the practice of TCM favor yes-no interrogatives, and this is due to the characteristics of TCM. For TCM practice, four modes of diagnosis and treatment are fundamental and basic: "observing", "listening", "inquiring", and "feeling". "Inquiring" plays an essential role in acquiring information and arriving at a diagnosis because medical instruments are rarely used in TCM. Doctors may not be able to arrive a better diagnosis without sufficient information. However, choosing too many yes-no interrogatives would not help build good interpersonal relationship.

# 4.2 WH-Interrogatives in Chinese Doctor-Patient Conversation

In the beginning (problem presentation stage), the doctor is more likely to choose WH-interrogatives to offer a chance for the patient's to convey their requirements and basic information. See Example 2.

Example 2:

	ampie 2.		
Turn	Speaker	Туре	Instance
1	D	WH-	你叫什么名字?
1	D	inter.	(What's your name?)
2	Р		李**。(Li **)
3	D	WH-	多少岁?
	D	inter.	(How old are you?)
4	Р		20
5	D	WH-	哪里不舒服?
	D	inter.	(What's wrong with you?)
6	Р		背痛 (backache)
7	D	WH-	什么时候开始的?
	D	inter.	(When did it begin?)
8	Р		嗯,上周路上脚崴了一下,回去 背就开始痛了。 (Last week I had a sprained ankle
			and it developed into a backache)
9	D	WH- inter.	是 痛呢? (What type of pain?)
10	Р	inter.	不晓得,反正就是痛。 (I have no idea, just feel painful)
13	D		那先去照个X 片看看。 (Then we shall take an X-ray first.)
14	Р	Yes- no inter.	开点止痛药休息几天应该就没有 事了吧 (Will it be ok after taking some painkiller?)

Note: D=doctor; P=patient; WH-inter.= Wh-interrogative.

In Example 2, the doctor chose five WH-interrogative clauses to acquire the information needed for his diagnosis. WH-interrogatives left more space for the patient to manage his answer. However, the doctor still remained in control of the conversation, for during the whole process, the patient seldom had the chance to raise a WH-interrogative himself.

As a type of open-ended questioning that encourages patients to provide more details, Wh-interrogatives are more desirable than yes-no interrogatives. The less whinterrogatives were selected, the more power and influence would the doctor impose on the patient. However, if patients are not encouraged to raise WH-interrogatives, doctors will not obtain as much useful information as possible.

#### 5.3 Alternative Interrogatives in Chinese Doctor-Patient Conversation

Alternative interrogatives are comparatively complex in Chinese, and there have been controversies amongst Chinese linguists on the topic. However, what is not disputed is that alternative interrogatives are not friendly or negotiable, and they are a restricted form of interrogatives. Example 3:

	umpre 5		
Turn	Speaker	Туре	Instance
1	D	WH- inter.	你怎么了?(What is the trouble?)
2	Р		最近老是咳嗽 (Recently, I have a persistent cough.)
3	D	Alt. inter.	白天咳还是晚上咳? (In the daytime or at night?)
4	Р		白天晚上都有点咳。(Both.)
5	D	Alt. inter.	最近有没有感冒啊? (You've caught a cold or not recently?)
6	Р		有。(Yes)
7	D		我来听一下你的肺部。 (I need to auscultate your breath sounds.)
8	Р	Alt. inter.	需不需要照X 片呢? (Do I need to take a X-ray or not?)
9	D		别担心,不需要。(No. Don't worry.)
10	Р	Alt. inter.	能不能多给我开点药? (Can I have more medicine or not?)
11	D		没有那么严重。(Not necessary .)

Note: D=doctor; P=patient; WH-inter.= Wh-interrogative.

In Example 3, four alternative interrogatives were used, three by the doctor and one by the patient. The patterns involved "A还是B" (A or B), "有没有/需不需要/能不能" (A, not A). Through alternative interrogatives, the speaker leaves more space for the listener to choose. By alternative interrogatives, the doctor may decrease his power and build a better relationship with the patient. In a similar way, the patient can show more of his or her respect to the doctor by using alternative interrogatives as a means of negotiation and inquiry. However, only two choices are provided in each alternative interrogative, so patients cannot choose from elements other than those in the interrogative.

### CONCLUSION

In Chinese doctor-patient conversations, doctors' questions occupy about 76.9% of the total questions, about 10% less than the findings (around 86%) from other studies (Brody, 1992; Smith, et al., 1998; Meeuwesen, et al, 2007). Chinese doctors, especially those in the Department of Traditional Chinese Medicine, favored yesno interrogatives most. Yes-no interrogatives and alterative interrogatives can both be responded to very quickly, and the high frequency of using these interrogatives unconsciously prompts doctors and patients to ignore an effective approach to building harmonious interpersonal relationships during consultation. Good interpersonal relationship may help reduce medical disputes, and may even help improve both doctors' working environment and patients' recovering speed. It should be noted that other factors such as gender, age, and ethnicity are also very important to diagnosis and treatments, and all of which need to be explored.

These findings could be used to develop tools for collecting quantitative data on Chinese doctor-patient conversations, which may include factors such as gender, age, ethnicity, and model of diagnosis and treatments.

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