A Comparative Study of Evidentiality in Abstracts of English and Chinese Research Articles

Linxiu Yang

Foreign Languages School, Shanxi University, Taiyuan, Shanxi, China

Yu Tian

Foreign Languages School, Shanxi University, Taiyuan, Shanxi, China

Abstract—This paper is a comparative study of evidentiality in abstracts of English and Chinese research articles. This study chooses 50 English linguistics abstracts and 50 Chinese linguistics abstracts. This paper first describes the lexicogrammatical realizations of evidentiality both in English and Chinese linguistics abstracts. Then, it specifically compares the use of reporting evidentials and inferring evidentials in English and Chinese abstracts. The findings are: the frequency of evidential use in English abstracts is higher than that in Chinese abstracts; the lexicogrammatical realizations of evidentiality in English abstracts are much more various and complex than those in Chinese abstracts. Besides, the analysis and comparison of the use of reporting and inferring evidentials in English and Chinese abstracts shows that the objectivity of English abstracts is higher than that of Chinese abstracts, and accordingly, the Chinese writers may bear higher responsibility for the information than English writers do. This study may be beneficial to the learning and teaching of academic writing in China, and on the other hand, it will enrich the study of evidentiality in academic discourses.

Index Terms—evidentiality, lexicogrammatical realizations, abstracts of English and Chinese research articles

I. INTRODUCTION

Evidentiality is a pervasive linguistic phenomenon in almost all languages in the world and there have been many studies concerning it from various angles. This paper studies evidentiality in abstracts of English and Chinese research articles (RAs in the following). It describes the lexicogrammatical realizations of evidentiality both in English and Chinese linguistics abstracts in great detail and tries to find the similarities and differences between the lexicogrammatical realizations of evidentiality in English and Chinese abstracts.

II. RELATIVE STUDIES ON EVIDENTIALITY AND RESEARCH ARTICLE ABSTRACTS

A. Relative Studies on Evidentiality

American Anthropologist Boas in 1911 first found that a kind of grammatical realization in American Indian can be used to express the information source and the degree of commitment (Boas, 1911). Since then the linguists have paid more attention to this kind of phenomenon and they called it evidentiality and the lexicogrammatical realizations are called evidentials. The initial stage of evidential researches focused on describing the grammaticalised evidential systems of the highly inflectional languages. The milestone of the development of evidential studies is the publishing of *Evidentiality: The linguistic coding of epistemology* (Chafe & Nichols, 1986). From then on, scholars have studied evidentiality from different perspectives.

Chafe (1986) defines evidentiality in the broad sense. According to Chafe (1986), evidentiality not only refers to the information sources, but also the speaker's attitude toward the information. In his study, he indicates that there are differences in the evidential use between the academic writings and conversations.

Aikhenvald &Dixon (2003) and Aikhenvald (2004) are the representatives of defining evidentiality in the narrow sense. In their opinion, evidentiality is only used to indicate the information source. In their studies, they make more efforts on evidentiality in different languages, especially in some lesser known languages, but they only pay attention to the grammatical evidentials without giving attention to the lexical ones. Aikhenvald (2003, 2004) examines over 500 languages and finds that not all languages have evidentiality as a grammatical category. Willet (1988) compares the grammatical evidentials in thirty-eight languages.

In China, evidentiality has also been approached by scholars from different perspectives. The first type is the introduction of evidentiality, and the representative is Hu (1994, 1995). The second type is the use of evidentiality to analyze certain discourses, such as Yang (2009), Wang (2009) and Cui (2014). Yang (2009) studies the evidentiality in applied linguistics and proposes her classification of evidentiality based on the characteristics of RAs. Cui (2014) makes

a comparative study of the use of verbal evidentials in English and Chinese RAs, whose findings show that there are significant differences in the use of verbal evidentials between English and Chinese RAs. He just pays attention to the verbal evidentials and ignores other kinds of evidentials, such as noun evidentials, adjunct evidentials and so on. The third is the study of evidentiality in Chinese, such as Zhu (2006) and Ma (2011). Zhu (2006) pays much attention to the evidentiality in Chinese and illustrates the unique expressions of the semantics of Chinese evidentials, but he just gives the general description of Chinese evidentials without studying it in certain type of discourse. Ma (2011) classifies the types of evidentials in spoken mandarin Chinese and develops a hierarchy for the evidentiality in terms of degree of reliability.

In the previous studies above, we can see that although achievements have been made, more work still need to be done in the studies of evidentiality. First, studies of Chinese evidentials are few and there are almost no studies of the description of lexicogrammatical realizations of Chinese evidentials in great detail. Second, there are few studies about the comparative study of evidentiality in English and Chinese evidentials. It is right here that this study finds its research space.

B. Relative Studies on Research Article Abstracts

Research article abstracts are the important parts of RAs, and they are the concentration of the RAs and the writers' ideas. The studies of abstracts have attracted the attention of scholars, for example, Graetz (1985), Swales (1990), and Bhatia (1993). Swales (1990) indicates that the "Introduction-Method-Results-Discussion" (IMRD) macro-structure is also suited to the abstracts. Ju (2004) compares the macro-structure of English and Chinese abstracts based on the IMRD framework. Other scholars, for example, Ge (2005) studies not only the macro-structure, but also the linguistic features of abstracts. She makes a cross-disciplinary study of the abstracts of electronic engineering, finance and surgery RAs based on the IMRD framework. Zeng (2005) and Teng (2008) study the hedges and modifiers respectively in abstracts of English and Chinese RAs. Huang (2012) studies evidentiality in abstracts of English RAs and shows that writers consciously use evidentiality to express their ideas and findings in their abstracts writing.

The previous studies of abstracts include the macro-structure and lexicogrammatical features of abstracts and the studies also touch upon the cross-cultural and cross-disciplinary studies of abstracts, but few efforts have been made to a systematic study to evidentiality in abstracts. Therefore, the evidential angle is a potential and new way to understand the abstracts deeply. In addition, there are not any comparative studies of evidentiality in abstracts of English and Chinese RAs.

In sum, studies of Chinese evidentials are few and there are almost no studies of the description of lexicogrammatical realizations of Chinese evidentials in detail. Studies of eidentiality in abstracts are few and no comparative study of evidentiality in abstracts of English and Chinese RAs. Therefore, this paper compares the use of evidentiality in English and Chinese abstracts to explore the influence of cultural factors on the writers' choice of evidentiality in their abstracts writing. In addition, this paper will describe the lexicogrammatical realizations of evidentiality in abstracts of English and Chinese RAs in detail, which will enrich the study of evidentiality in academic discourses.

III. METHODOLOGY AND DATA COLLECTION

This research establishes two corpora: abstracts of English and Chinese linguistics RAs. Each corpus consists of 50 abstracts of RAs. The total word number of abstracts of English and Chinese RAs is 8036 and 8912 respectively. The English linguistics RAs are randomly chosen from the Internet (www.Elsevier.com). The chosen journals of this study are: *Journal of Pragmatics, Lingua, Language & Communication, Cognition, Journal of English for Academic Purposes* and so on. The word number of abstracts in English linguistic RAs is similar. The Chinese linguistic RAs are randomly selected from the authoritative journals of Chinese linguistics. The journals, such as, *Contemporary Linguistics, Journal of Foreign language teaching, Foreign Language Teaching and Research* are selected.

The data-coding of this research is by doing sampling manually at the first stage to identify all the potential lexicogrammatical realizations of the different evidential types. Then, different markers are adopted to tag the lexicogrammatical realizations of the different evidentiality in the text documents. Besides, the software Antconc 3.2.4 is adopted to count and show all the lexicogrammatical realizations of evidentials and the concordance patterns of evidentials in English and Chinese abstracts. Finally, Microsoft Office Excel is used to draw the figures accordingly.

This study adopts quantitative method. By showing the results of data analysis of different evidential types, the author draws a picture of the lexicogrammatical realizations and the distribution of evidentials in English and Chinese abstracts. By showing the similarities and differences between the use of evidentials in English and Chinese abstracts, its aim is to explore the influence of cultural factors on the writers' choice of evidentials in abstracts of English and Chinese RAs.

IV. HOW IS EVIDENTIALITY LINGUISTICALLY MANIFESTED IN ABSTRACTS OF ENGLISH AND CHINESE RAs

As we have indicated, evidentiality can be defined in the broad sense and in the narrow sense. This paper takes the view of evidentiality in the broad sense, that is, evidentiality, is not only used to refer to the source of information, but also refer to the speaker's attitude toward the information. In this paper, we accept the classification of Yang (2009) and

classify evidentials into four types: inferring evidentials, reporting evidentials, sensory evidentials and belief evidentials. Then how evidentiality is linguistically manifested in abstracts of English and Chinese RAs?

A.   Lexicogrammatical Realizations of Evidentiality in Abstracts of English RAs

As we have illustrated, this paper classifies evidentials into four types: inferring evidentials, reporting evidentials, sensory evidentials and belief evidentials. The following part will describe the lexicogrammatical realizations of the four evidential types in English abstracts one by one.

1. Inferring evidentials

Inferring evidentials are classified into two types: inference and assumption. According to Yang (2009), inference involves an inferential process based on visible evidences, while assumption indicates an inferential process based on logic reasoning, sheer assumption or general knowledge (Yang, 2009). Based on the corpus, inferring evidentials in abstracts of English RAs are realized mainly by modal verbs, modal adjectives and relational process.

Modal verbs are the most typical realizations of inferring evidentials, for example, *shall, should, can, may, will, would, could etc*. The different modal verbs can indicate different degrees of modal values and different degrees of commitment to the factual status of the information (Yang, 2009). For example:

(1) Consequently, theories of 'language', including both pragmatics and linguistics, **must** be 'liberated' from the reference- or semantics-centric perspectives; instead, they **should** start from'the bottom up', from the deictic center of sociocultural interaction, i.e., 'discourse'.

(2) This paper argues that closer attention to social factors, and especially to power relations, **may** enrich the theoretical study of language.

Different modal verbs are used in the above examples. The three modal verbs have different modal values, for instance, *must* has higher value than should in (1), and *should* has higher value than *may* in (2).The three modal verbs indicate the writer's different degrees of commitment to the factual status of the proposition he present. The writer in (1) bears higher responsibility for the information than the writer does in (2).

Modal adjectives are usually used with *it* structure. In the corpus of English abstracts, the only one form is *it's possible that*. It will be illustrated in the following example.

(3) On the other hand, **it is possible that** the assertive mode is subsumed under the evidential system in some languages or under the speech acts system in others.

In the above example, the author uses *it is possible that* to modify the proposition "the assertive mode is subsumed...". With the use of modal adjectives, the writers express their opinions toward the proposition in an objective way, which matches the objectivity of RAs.

The relational process can also be used to realize the inferring evidentials, such as, *seem to*, and *it (would) seem that* etc. For example:

(4) **It would seem that** Caffarel's suggestion supplies an alternative way of looking at the interpersonal metafunction rather than a structure which distinguishes between English and French.

In sum, inferring evidentials can be realized by three types of lexicogrammatical realizations based on the corpus of English abstracts. The writers use different inferring evidentials to indicate his different degrees of certainty to the information, and at the same time, different inferring evidentials can also show the writers' intrusion into the propositions subjectively or objectively, and either in an explicit or in an implicit way.

2. Reporting evidential

Reporting evidentials include self-reporting evidentials and other-reporting evidentials. Self-reporting evidentials indicate that information is acquired from or related to the writer's own researches, while other-reporting evidentials indicate that information sources are others' researches, arguments and experiments etc. Reporting evidentials can be realized by several types of lexicogrammatical forms.

First, (author + date) form can be used to realize reporting evidentials. This kind of form occurs frequently in the corpus of English abstracts. For example:

(5) In essence, by not giving direct answers, the examples underscore the creative and powerful crafting of political discourse by skilled speakers to assuage the appearance of culpability in actions or inactions which could prove politically damaging while providing ''appropriate'' responses **(Berlin, 2007; Harris, 1991; Janney, 2002)**within the context of an investigative hearing.

In the above example, the author uses *(Berlin, 2007; Harris, 1991; Janney, 2002)* to indicate that the information is acquired from Berlin, Harris and Janney. In this way, the writers cite the opinions, findings and arguments of the authoritative to strengthen the persuasion of their opinions and findings. This is a typical realization that is adopted by writers in English abstracts.

Second, verbal forms can also be used to realize reporting evidentials. Based on the corpus of English abstracts, several examples will be illustrated in the following.

(6) This paper **argues that** closer attention to social factors, and especially to power relations, may enrich the theoretical study of language. It takes its departure from Searle's work in the philosophy of language and on the foundations of social reality.

(7) While everyone **agrees that** slurs are offensive, there is disagreement about the linguistic mechanism responsible for this offensiveness.

(8) On the basis of the analysis **it can also be concluded that,** in the absence of pragmatic information, use or interpretation predicted by grammar can often be evaluated as only typical or even underspecified, and, if the context is more specific, it can determine the utterance meaning to a greater degree.

(9) Furthermore, the three types of interpretations offered to the participants: ORIGINATING IN, RECIPE FROM and REMINDS OF, **were shown** to form an implicational hierarchy, which could explain the ''asymmetric'' preferences attributed to them by the participants in the experiments.

In the above examples, we can see that three kinds of verbal forms are used by the writers: *verb+ that* structure in (6) and (7), *it is verbed that* structure in (8) and *be verbed* structure in (9). The above examples show that the information sources can be human, nonhuman, or even concealed, either specific or unspecific, for example, in (6) and (8) the information source is nonhuman and specific, while the information in (7) is acquired from the unspecific human and in (9) the information source is concealed by the writer.

Third, nouns can also be used to realize reporting evidentials. Based on the data, the nouns used in the English abstracts are *claim, view, conclusion,* and *proposal*. For example:

(10) These definitions include reference to the speech act participants, a point which supports **the view that** what-d'you-call-it words can be considered deictic.

Based on the corpus, the nouns are usually used together with *that* structure, as in the above example *the view that.*

Fourth, adjuncts are forms which can also be used to realize reporting evidentials. The adjuncts in the English abstracts are *according to X*, *in X's approach*. Example will be showed in the following.

(11) **According to Caffarel** the interpersonal analysis of the French clause is in terms of a Negotiator and a Remainder, where the obligatory components of the Negotiator are the Finite, the Subject, and the Predicator.

As we have discussed, reporting evidentials are divided into self-reporting evidentials and other-reporting evidentials. Adjunct forms of reporting evidentials are usually adopted to realize other-reporting evidentials. In the above example, with the use of adjunct forms, the writer indicates the information source without showing the evaluation of the information and the information source. The adjunct forms of reporting evidentials are objective which matches the objective nature of RAs.

3. Sensory evidential

Sensory evidentials indicate that the information is acquired from the writer's first-hand experience. The information sources are various sensory channels. Sensory evidential occurs only once in English abstracts, just as Chafe (1986) has found very low frequencies of sensory evidentials in his studies of evidentiality in spoken and academic English. The case is illustrated in the following example.

(12) Second, **we will see tha**t their evidential meaning can be reconstructed step by step by taking into account such a dialogical value as well as the lexical meaning of the verb they are compounded with.

In (12), sensory evidential is realized by *personal pronoun plus see*. The writer uses *we will see* to show that the information is from the writer's sensory channel. Sensory evidentials are relatively subjective which is opposite to the objective nature of RAs. This may be the reason why the frequency of sensory evidentials is very low in English abstracts.

4. Belief evidential

Belief evidentials indicate that information comes from the writer's opinion, either in a subjective or in an objective way. In the 50 passages of English abstracts, the belief evidentials are: *we argue that*, *I/ shall/will argue that*, *it is/ will be argued that.* The verbal form of *argue* is adopted by the writers to demonstrate the writers' opinions without the use of other mental-state verbal forms. Some examples will be listed in the following.

(13) In this paper **I argue that,** far from discarding the insights of Grice, Austin and others, a discursive approach to interpersonal pragmatics IV should embrace those aspects of non-discursive pragmatics that provide us with a 'tool-kit' and a vocabulary for examining talk-ininteraction.

(14) As to (ii), **it will be argued** that, in a first stage,se fairehas been increasingly used in contexts that display subjective perspectivation of the change of state.

In (13), the writer shows his opinion towards the proposition in a subjective way, while in (14) the writer expresses his opinion in an objective way. The objective way of expressing the writers' opinion is much more persuasive and easier to be accepted by the readers.

The above has shown the lexicogrammatical realizations of evidentiality in abstracts of English RAs. The following section will show the lexicogrammatical realizations of the four types of evidentials in abstracts of Chinese RAs.

B. Lexicogrammatical Realizations of Evidentiality in Abstracts of Chinese RAs

1. Inferring evidential

As we have discussed, inferring evidentials indicate that information is based on what has been observed or known. Based on the corpus, inferring evidentials in the Chinese abstracts can be realized by modal verbs, modal adjuncts, but no modal adjectives and relational process occurs in Chinese abstracts.

Modal verbs are the most frequently used realizations of inferring evidentials in Chinese abstracts, such as 应/应该/应当 (ying /ying gai /ying dang, should),可/可以(ke/ke yi, can), 必须(bi xu, must) and so on. For example:

(15) 作者认为,社会语言学**应**逐步建立完善的理论范式,其内部**应当**建立可同其他相关学科参比的学科评判标准,提高学术声望度。

zuo zhe ren wei she hui yu yan xue ying zhu bu jian li wan shan de li lun fan shi qi nei bu ying dang jian li ke tong qi ta xiang guan xue ke can bi de xue ke ping pan biao zhun ti gao xue shu sheng wang du

(16) 乔氏理论在总体上是失败的,但是它**可以**启发人们进一步思考更接近语言实际的理论,也有助于了解其他当代语言学流派产生的背景。

qiao shi li lun zai zong ti shang shi shi bai de dan shi ta ke yi qi fa ren men jin yi bu si kao geng jie jin yu yan shi ji de li lun ye you zhu yu liao jie qi ta dang dai yu yan xue liu pai chan sheng de bei jing

In the above examples, the writers use different modal verbs to illustrate different degrees of modal values, for example, 应/应当(ying/ying dang, should) in (15) has higher value than 可以(ke yi, can) in (16), and meanwhile the writer in (15) bears higher responsibility than the writer in (16) does.

Modal adjuncts in Chinese abstracts can also be used to realize inferring evidentials. In Chinese abstracts, only one form is adopted, that is 尝试性地 (chang shi xing de, tentatively), the case will be illustrated in the following.

(17) 本文对 "认知语言学" 的定义进行了考证和评析,**尝试性地**勾画出认知语言学的基本理论框架。

ben wen dui ren zhi yu yan xue de ding yi jin xing le kao zheng he ping xi chang shi xing de gou hua chu ren zhi yu yan xue de ji ben li lun kuang jia

In the above example, with the use of 尝试性地(chang shi xing de, tentatively), the writer expresses their uncertainty toward the proposition. In this way, the writer spares the spaces for the discussion about the information.

2. Reporting evidential

As we have discussed above, reporting evidentials can be classified into self-reporting evidentials and other-reporting evidentials. Reporting evidentials in Chinese abstracts can also be realized by verbal forms, (author + date) form, and adjuncts. Noun patterns don't appear in Chinese abstracts.

Verbal forms are the most frequently used realizations of reporting evidentials based on Chinese corpus. The typical verbs are: 提出 (ti chu, propose), 强调 (qiang diao, emphasize), 说明 (shuo ming, show),认为 (ren wei, think) and so on. Some examples will be illustrated in the following.

(18)本文在分析、讨论这些模式的基础上,**提出**要重新认识语言学能的结构 ,创新语言学能测试。

ben wen zai fen xi tao lun zhe xie mo shi de ji chu shang ti chu yao chong xin ren shi yu yan xue neng de jie gou chuang xin yu yan xue neng ce shi

(19) 作者**认为**,社会语言学应逐步建立完善的理论范式,其内部应当建立可同其他相关学科参比的学科评判标准,提高学术声望度。

zuo zhe ren wei she hui yu yan xue ying zhu bu jian li wan shan de li lun fan shi qi nei bu ying dang jian li ke tong qi ta xiang guan xue ke can bi de xue ke ping pan biao zhun ti gao xue shu sheng wang du

In the above examples, the writers use verbal forms to show that the information sources are either from their own opinions or extra sources. The writers offer the specific information sources and emphasize the information sources rather than the information itself. The information sources can also be human or nonhuman, specific or unspecific. Concealed information source doesn't occur in Chinese abstracts. For example, 本文 (ben wen, this paper) in (18) is nonhuman, and 作者 (zuo zhe, the author) in (19) is human and specific.

(Author+ date) form can also be used to realize reporting evidentials. Only one case of this form occurs in Chinese abstracts. It will be shown in the following.

(20)**潘文国和谭慧敏的新著 《对比语言学 :历史与哲学思考》**给了我们一个理性的认识:一个学科理论体系的建立依靠两项基础工程,那就是学科理论史和范畴系统的研究。

pan wen guo he tan hui min de xin zhu dui bi yu yan xue li shi yu zhe xue si kao gei le wo men yi ge li xing de ren shi yi ge xue ke li lun ti xi de jian li yi kao liang xiang ji chu gong cheng na jiu shi xue ke li lun shi he fan chou xi tong de yan jiu

It is not the typical (author+ date) form in (20), it is realized by authors+ writing. The writer uses the form to indicate that the information is acquired from the new writing of *Pan Wenguo and Tan Huimin*. In this way, the author strengthens the persuasion of his information by mentioning the writing of *Pan Wenguo and Tan Huimin*.

Reporting evidentials can also be realized by adjuncts in Chinese abstracts. The typically used adjuncts in Chinese abstracts are:以... 为参照点 (yi ... wei can zhao dian, in terms of...), 根据(gen ju, according to). Only these two forms occur in Chinese abstracts. For example:

(21) 本文**以索绪尔的普通语言学理论为参照点**, 围绕语言、符号与社会的关系, 对近一个世纪的当代语言学的发展进行了梳理。

ben wen yi suo xu er de pu tong yu yan xue li lun wei can zhao dian wei rao yu yan fu hao yu she hui de guan xi dui jin yi ge shi ji de dang dai yu yan xue de fa zhan jin xing le shu li

In the above example, the writer uses adjuncts to indicate that the information is acquired from extra sources rather than the writers' own studies and arguments. Just like reporting adjuncts in English abstracts, adjunct reporting evidentials in Chinese abstracts are usually adopted in other-reporting evidentials. In the above example, the writer

adopts Saussure's general linguistic theory in (21). In this way, the writer just introduces the information sources without any evaluation of the information sources and the information itself.

3. Sensory evidential

Based on the data, we find that no sensory evidential occurs in Chinese abstracts. As we have illustrated, the sensory evidentials indicate that the information is acquired from the writer's sensory channels. This kind of evidence is relatively subjective and sometimes its reliability is questioned. This may be the reason that Chinese writers consciously avoid the use of this kind of evidence.

4. Belief evidential

Belief evidentials indicate information that is acquired from the writer's own opinion. There is only one case of belief evidential in Chinese linguistic abstracts. The case will be discussed again in the following.

(22) 因此,**我们认为**教育语言学比应用语言学更能准确表述本学科的学科属性。

yin ci wo men ren wei jiao yu yan xue bi ying yong yu yan xue geng neng zhun que biao shu ben xue ke de xue ke shu xing

In (22), the writer adopts the form 我们认为 (wo men ren wei, we think) to indicate that the proposition is from his or her own opinion. Belief evidential in Chinese linguistic abstracts is realized by personal pronoun 我们 (wo men,we) plus mental-state verb 认为 (ren wei, think). The information source is the writer and it is he or she that should be responsible for the truth of the proposition. Therefore, belief evidentials are subjective, which is opposite to the objectivity of research articles. It may be the main reason that the writers of both English and Chinese abstracts adopt a few belief evidentials in their writing.

In the above section, the lexicogrammatical realizations of evidentials in abstracts of English and Chinese RAs are illustrated. There are similarities and differences between the lexicogrammatical realizations of the Chinese and English abstracts, which will be illustrated in the section 5.1.

V. DATA ANALYSIS AND DISCUSSION

A. Distribution and Frequency of Evidentials in Abstracts of English and Chinese RAs

TABLE 1
THE DISTRIBUTION OF FOUR TYPES OF EVIDENTIALS IN ABSTRACTS OF ENGLISH AND CHINESE RAS

Abstracts	Inferring evidentials		Reporting evidentials		Sensory evidentials		Belief evidentials		Total	
	Raw data	Frequency per 1,000 words	Raw data	Frequency per 1,000 words	Raw data	Frequency per 1,000 words	Raw data	Frequency per 1,000 words	Raw data	Frequency per 1,000 words
English abstracts	61	7.59	84	10.45	1	0.12	13	1.62	159	19.79
Chinese abstracts	48	5.39	28	3.14	0	0	1	0.11	77	8.64

Table 1 shows the distribution of four types of evidentials in English and Chinese abstracts. From the table, we can see that the frequency of evidentials in English abstracts is higher than that in Chinese abstracts (the frequency is 19.79 and 8.64 respectively), which indicates that writers of English abstracts have higher awareness of using evidentials than Chinese writers do. The table also shows that both in English and Chinese abstracts, inferring evidentials and reporting evidentials are the two most frequently used evidentials. Reporting evidentials are the most frequently used evidentials in English abstracts (the frequency is 10.45) while inferring evidentials are the most frequently used in Chinese abstracts (the frequency is 5.39). Sensory evidential occurs only once in English abstracts and none in Chinese abstracts. Although the frequency of belief evidentials is low in English abstracts (1.62), it is much higher than that in Chinese abstracts (0.11).

TABLE 2
LEXICOGRAMMATICAL REALIZATIONS OF EVIDENTIALITY IN ABSTRACTS OF ENGLISH AND CHINESE RAS

Abstracts	Evidential types	Evidentials		Raw data	Frequency per 1,000 words
English abstracts	Sensory	We will see that		1	0.12
	Inferring	Modal verbs	can	23	2.86
			may	10	1.24
			will	6	0.75
			must	6	0.75
			might	5	0.62
			should	4	0.50
			could	2	0.25
			shall	1	0.12
		Relational process	It(would) seems that	2	0.25
			seem to	1	0.12
		Adjectives	It is possible that	1	0.12
	Reporting	Verbs	show	15	1.87
			demonstrate	6	0.75
			suggest	6	0.75
			argue	5	0.62
			find	4	0.50
			claim	3	0.37
			indicate	3	0.37
			note	2	0.25
			conclude	2	0.25
			hypothesize	2	0.25
			propose	1	0.12
			agree	1	0.12
			discuss	1	0.12
		Author + date	24		2.99
		Nouns	claim	2	0.25
			view	2	0.25
			conclusion	1	0.12
			propose	1	0.12
		Adjuncts	In x's opinion	1	0.12
			according to	1	0.12
	Belief	I (will/ shall) argue that		5	0.62
		It (will be) is argued that		5	0.62
		We argue that		3	0.37
Chinese abstracts	Sensory	-		-	-
	Inferring	Modal verbs	可以/可(can)	21	2.36
			应该/应/应当 (should)	12	1.35
			将(will)	4	0.45
			会(will)	3	0.34
			能(can)	2	0.22
			可能(may)	2	0.22
			必须(must)	1	0.11
			理应(should)	1	0.11
		Modal adjuncts	尝试性地（tentatively）	2	0.22
	Reporting	Verbs	认为（think）	7	0.79
			提出(propose)	3	0.34
			说明(show)	2	0.22
			指出(indicate)	2	0.22
			揭示(reveal)	2	0.22
			表明(show)	2	0.22
			主张(maintain)	1	0.11
			强调(emphasize)	1	0.11
			凸现(show)	1	0.11
			发现(find)	1	0.11
			显示(show)	1	0.11
			证明(demonstrate)	1	0.11
		Adjuncts	根据(according to)	2	0.22
			以...为参照点(in terms of)	1	0.11
	Belief	我们认为(We think that)		1	0.11

Table 2 shows the distribution of lexicogrammatical realizations of evidentials both in English and Chinese abstracts. In Table 2, we can see that the lexicogrammatical realizations of evidentiality in English abstracts are much more various than those in Chinese abstracts. In inferring evidentials, modal verbs are the most frequently used forms both in

English and Chinese abstracts. Relational process and adjectives are also used to realize inferring evidentials in English abstracts, while modal adjuncts occur in Chinese abstracts. In English abstracts, verbs are the typical way to realize reporting evidentials. Then follow (author + date) form, nouns and adjuncts. In Chinese abstracts, verbs are also the most frequently used realizations of reporting evidentials, but we can see that the (author + date) form in Chinese abstracts occurs only once and the frequency is 0.11, while in English abstracts the frequency is as high as 3.11. As we have indicated, no sensory evidential is adopted in Chinese abstracts. And in English abstracts, the sensory evidential occurs only once. Belief evidentials in English abstracts are realized by either *I/ we plus argue that* subjectively or *It (will be) is argued that* objectively. From the table, we can see that the writer intends to keep a balance between subjectivity and objectivity. In Chinese abstracts, the belief evidential occurs only once. As we have discussed, the belief evidentials are subjective, and with the use of belief evidentials, the writer himself will bear much responsibility for the information. This may indicate that Chinese writers try to avoid or decrease the use of belief evidentials in order to be objective.

In the above, the distribution and frequency of four types of evidentials has been examined and discussed. As we have indicated, inferring evidentials and reporting evidentials are the two most frequently used evidentials both in English and Chinese abstracts. Therefore, the following two sections will show the similarities and differences between the use of these two types of evidentials in English and Chinese abstracts.

B.   Reporting Evidentials in Abstracts of English and Chinese RAs

This section will compare reporting evidentials in abstracts of English and Chinese RAs from three perspectives: the verbal form, the (author+ date) form, and the information sources.

1. Verbal forms in abstracts of English and Chinese RAs

As we have indicated, verbs are the most frequently used realizations of reporting evidentials both in English and Chinese abstracts. According to Francis et al. (1996), the verbs can be classified into three types: *Argue* verbs, *Think* verbs, *Show* and *Find* verbs. As their names indicate, information of the *Argue* verbs is acquired from writing and other forms of communication, the information of *Think* verbs is acquired from thinking, and *Show and Find* verbs is acquired from visual channel. The three types of groups also indicate different reliability and commitment of the information. For instance, *Show* and *Find* verbs are always factive, therefore, they tend to have much more reliability than the other two types of verbs.

In Table 2, no *Think* verb occurs in English abstracts. The most frequently used verb is *show*, and then follow *demonstrate, suggest* and *argue*. The verbs *show* and *demonstrate* all belong to *Show* and *Find* group, which indicates that the writers pay more attention to the factual status of the propositions.

In Chinese abstracts, the verb 认为 (ren wei, think) is the most frequently used verb. 认为(ren wei, think) belongs to *Think* group. As we have discussed, the three types of verbs indicate different degrees of certainty and reliability of the information. Among the three groups, *Think* group bear the lowest certainty and reliability of the information. And accordingly, by using this kind of verbs, the Chinese writers bear higher responsibility for the truth of the information they present than the writers of English abstracts do.

In sum, verbs are the most frequently used forms both in English and Chinese abstracts. The writers of English and Chinese abstracts tend to use different types of verbal groups. In English   abstracts, no *Think* group is adopted, while in Chinese abstracts the verb 认为 (ren wei, think) is the most frequently used verbal form. The writers of English abstracts tend to put much more value on the factual status of the propositions than Chinese writers do.

2. (Author + date) forms in abstracts of English and Chinese RAs

As we have shown, the frequency of (author + date) form in English abstracts is much higher than that in Chinese abstracts (3.11, 0.11 respectively). This kind of realization of reporting evidentials is relatively objective, which is identical to the objective nature of RAs. In this way, the writer cites other scholars' arguments to strengthen the persuasion of his argument and research. In English abstracts, the use of (author+ date) form is frequent, while in Chinese abstracts, it occurs only once. Examples will be illustrated in the following.

(23) In this paper, I explore the relationship between Relevance Theory and Jaszczolt's Default Semantics, framing this debate within the picture of massive modularity tempered by the idea of brain plasticity (**Perkins, 2007).**

In (23), the information is acquired from the extra source rather than the writer himself or herself. The writer adopts (author + date) form to indicate the information source without any subjective evaluation of the information. In this way, it is the cited author rather than the writer that is responsible for the truth of the information. In the above example, it is *Perkins* that bears the responsibility for the information rather than the writer. This form of realization is objective for without involving too much subjectivity. (Author + date) form is the second frequently chosen realization of reporting evidentials in English abstracts, while it occurs only once in Chinese abstracts. This indicates that the writers of English abstracts put more value on the objectivity of the abstracts of RAs than Chinese writers do.

3. Information sources of reporting evidentials in English and Chinese abstracts

As we have illustrated, the reporting evidentials can be classified into self-reporting evidentials and other-reporting evidentials. In English abstracts, self-reporting and other-reporting evidentials occupy 58% and 42% respectively of the total reporting evidentials, while in Chinese abstracts percentage of self-reporting evidentials is much higher than other-reporting evidentials(71% and 29% respectively). This indicates that, in English abstracts, the writer tries to keep

a balance between self-reporting evidentials and other-reporting evidentials, while in Chinese abstracts the writer pays more attention to the research and finding of the writer himself or herself.

TABLE 3
INFORMATION SOURCES OF REPORTING EVIDENTIALS IN ENGLISH AND CHINESE LINGUISTIC ABSTRACTS

Abstracts	Information sources		Other-reporting		Self-reporting		Total	
English abstracts	Human	specific	27	77.1%	11	22.4%	38	45.2%
		unspecific	2	5.7%	0	0%	2	2.4%
	Non-human		3	8.6%	28	57.1%	31	36.9%
	Concealed		3	8.6%	10	20.5%	13	15.5%
	Total		35	100%	49	100%	84	100%
Chinese abstracts	Human	specific	1	12.5%	1	5%	2	7.1%
		unspecific	0	0%	0	0%	0	0%
	Non-human		7	87.5%	19	95%	26	92.9%
	Concealed		0	0%	0	0%	0	0%
	Total		8	100%	20	100%	28	100%

As we have indicated, information sources can be human, non-human or concealed, specific or unspecific. Table 3 shows the information sources of reporting evidentials in English and Chinese abstracts. In English linguistic abstracts, human sources are the main sources of reporting evidentials, occupying 47.6%, and then follow non-human information sources and concealed sources. In human sources, the specific human sources are dominated. In other-reporting evidentials, specific human sources are the most frequently used information sources (77.1%). This means that the writers tend to put emphasis on the cited researchers instead of the information itself. In this way, the writer can show his respect for the previous researchers and also make his study connect with the previous studies. And, on the other hand, citing the authoritative researchers can strengthen the persuasion and reliability of his findings and arguments. In self-reporting evidentials, the non-human information sources are dominated, occupying 57.1% of the total self-reporting evidentials. This shows that in presenting his own study, the writers adopt *this study, this paper, the figure, the table* and so on to speak for themselves instead of *Is* and *wes.* In this way, the writers improve the reliability of the information and increase the objectivity of the RAs. The use of specific human sources in other-reporting evidentials and non-human sources in self-reporting evidentials all aim to improve the persuasion and reliability of the information. In this way, the writers of the English abstracts increase the objectivity of the information, which is identical to the objectivity of RAs.

The situation is different in Chinese abstracts. Different from the information sources of reporting evidentials in English abstracts, in Chinese linguistic abstracts, the non-human information sources are the most frequently used sources (92.9%) and the human information sources only occupies 7.1% of the total reporting evidentials. The information sources of reporting evidentials in Chinese abstracts are much simpler than those in English abstracts. In Chinese linguistic abstracts, information sources only include specific human and non-human sources. Neither unspecific human nor concealed information sources occurs in Chinese linguistic abstracts. In other-reporting evidentials, non-human information sources are the main information sources and the writers adopt *other linguistic theory, arguments of other schools, writings* and so on to strengthen the persuasion of his research and argument. The specific human sources occupy only 12.5% of the total other-reporting evidentials. In self-reporting evidentials just like English linguistic abstracts, the non-human information sources are absolutely dominated (95%).

The comparison of information sources of reporting evidentials between English and Chinese abstracts shows that the information sources of reporting evidentials in English abstracts are much more various and complex than that in Chinese abstracts. The writers of English linguistic abstracts try to choose different information sources of self-reporting and other-reporting evidentials to improve the persuasion and reliability of the information and match the objectivity of the RAs, while Chinese writers choose either specific human sources or non-human sources as information sources. The Chinese writer gives more value on his own researches and studies. Accordingly, the subjectivity of Chinese abstracts is higher than that of English abstracts. And the Chinese writers will bear much more responsibility for the information they present than writers of English abstracts do.

C.   Modal Verbs in Abstracts English and Chinese Research Articles

As we have illustrated, modal verbs are the most typical realizations of inferring evidentials both in English and Chinese abstracts. Modal verbs in English abstracts occupy 93.4% of the total inferring evidentials and in Chinese abstracts modal verbs occupy 96%. Different modal verbs have different degrees of modal value and indicate different degrees of certainty of the writers toward the information. Value of modal verbs can be classified into low value, median value and high value. For example, *migh*t indicates low value, *should* median and *must* high value. This section will discuss modal verbs of inferring evidentials in English and Chinese abstracts.

From Table 2, in English abstracts, the most frequently used modal verb is *can*, and then follow *may, will, must* and *might. Can, may*, and *might* are all modal verbs with low value, and *will* median value and *must* high value. Table 4 shows the occurrence of modal verbs with different modal value in English and Chinese abstracts. As table 4 indicates, in English abstracts, the use of low value modal verbs is dominated (the percentage is 70.2%), with the use of modal verbs with high value and median value. The two most frequently used modal verbs in English linguistic abstracts are

can and *may*, which shows that low value of modal verbs are frequently chosen to express low degrees of certainty of the writer towards the proposition. In this way, the writer tries not to be assertive and to negotiate with the readers. On the other hand, we can see that high value modal verbs occupy 10.5% of the total modal verbs. With the use of high value modal verbs, the author can emphasize the strength of his commitment to the information. Writers should show his certainty of the information. Only in this way, the reader may accept his argument and research. The frequent use of modal verbs with low value and less frequent use of high value modal verbs all serve to improve the objectivity and persuasion of the abstracts.

TABLE 4
OCCURRENCES OF MODAL VERBS WITH DIFFERENT MODAL VALUE IN ENGLISH AND CHINESE ABSTRACTS

Abstracts	High value		Median value		Low value		Total	
English abstracts	6	10.5%	11	19.3%	40	70.2%	57	100%
Chinese abstracts	1	2.2%	20	43.5%	25	54.3%	46	100%

In table 2, we can see that in Chinese linguistic abstracts 可以/可 (ke yi/ ke, can) and 应该/应/应当 (ying gai/ying/ying dang,should) are the two most frequently used modal verbs, with the low frequency of other modal verbs. As we have indicated,可以/可 (ke yi/ke, can) is the modal verb with low value and 应该/应/应当 (ying gai/ying/ying dang,should) with median value. This indicates that Chinese writers not only pay attention to the low value modal verbs but also put value on the median value modal verbs. As table 4 shows, in Chinese linguistic abstracts, the writers almost keep a balance between the use of modal verbs with low value and median value (the percentage is 54.3% and 43.5% respectively). And on the other hand, Chinese writers, opposite to writers of English abstracts, try to avoid the use of high value modal verbs. In Chinese abstracts, high value modal verb occurs only once.

In sum, the frequency of modal verbs in English abstracts is higher than that in Chinese abstracts. Modal verbs with low value dominate English abstracts, while in Chinese abstracts the use of modal verbs with low value and median value is almost in balance.

VI. CONCLUSION

This paper studies evidentiality in abstracts of English and Chinese linguistics RAs. Both English writers and Chinese writers adopt four types of evidentials consciously to indicate information sources and their commitment to the information they present. The findings are: the frequency of evidentiality in English linguistics abstracts is higher than that in Chinese linguistics abstracts, which indicates that the awareness of the use of evidentiality of writers of English abstracts is higher than that of Chinese writers; Inferring evidentials and reporting evidentials are the two most frequently used evidentials both in English and Chinese abstracts, while reporting evidentials are most frequently used in English abstracts and inferring evidentials are most frequently used in Chinese abstracts; Low frequency of sensory evidentials are adopted both in English and Chinese abstracts. Besides, the analysis of reporting evidentials and inferring evidentials indicates that English abstracts are more objective than Chinese abstracts, and accordingly, the Chinese writers may bear higher responsibility for the information sources and the validity of the information they present.

This study may be helpful to enrich the study of evidentiality in academic discourses, and on the other hand, it may be beneficial to the learning and teaching of academic writing in China.

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Linxiu Yang is currently an associate professor at the Foreign Languages School of Shanxi University, China. She obtained her PhD in July 2009 in Xiamen University. Her current research interests include functional linguistics and discourse analysis. She has published over 10 academic articles in the areas of discourse studies, functional linguistics and foreign language teaching and learning in Journal of Pragmatics and Discourse Studies.

Yu Tian is currently a postgraduate of Shanxi University, China. Her research interests are Functional Linguistics, and discourse analysis. She is currently interested in evidentiality in English and Chinese academic discourses.