

# Exploring Speech Acts in Suicide Notes from the Forensic Linguistics Approach: A Comparative Study of Chinese and American Cases

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## Abstract:

Suicide notes are the information left by people who commit suicide. In these notes, people employ various speech strategies to express their emotion and will. The strategies and content in suicide note vary with culture. Using the Linguistic Inquiry and Word Count (LIWC) and Chinese LIWC (CLIWC) programs, this study looks at the speech actions in suicide notes as well as the linguistic and affective traits of suicide notes from Chinese and American individuals. The results show that while expressive acts and social words are more prevalent in American notes, suggesting stronger social connectivity, forceful acts predominate in all countries. Chinese suicide notes, on the other hand, show more directed actions and a greater frequency of both good and negative feelings in these actions. Despite the study's limitations due to the small sample size, it provides valuable insights into the cultural differences in the language of suicide and suggests directions for future research, including larger-scale analyses and the development of AI-driven tools for suicide prevention.

**Keywords:** Suicide notes; speech acts; LIWC

## 1 Introduction

A suicide note is a written message left by an individual who intends to end their life. According to Olsson, suicide notes exhibit several key characteristics: a) they include a clear statement, typically related to the cause of suicide; b) they are straightforward and thematic, directly addressed to the recipient; c) they show the clear mind of the author that they have no better option than suicide but knowing suicide is not the desirable choice; d) they are brief, typically under 300 words for suicide letters, while under 100 for suicide notes; e) they are unclear in situational context [1].

Forensic linguistics has made significant progress in understanding suicide notes, particularly their linguistic features. Academics have concentrated on things like figuring out if the notes are legitimate, analyzing the emotions in the notes, and analyzing the discourse in the notes. These investigations have shed important light on the traits that set real suicide notes apart from fake ones.

Research on Chinese suicide notes is still largely unexplored, despite the field's progress. The purpose of this study is to compare the speech act, and the strategies used

by American and Chinese suicide notes to fulfill their speech acts. The goal of this project is to improve the accuracy of suicide note analysis in diverse cultural contexts and add to the corpus of knowledge in forensic linguistics worldwide.

## 2 Literature Review

At first, the studies on suicide notes are psychological, which is also a norm nowadays. However, there has been a growing trend towards examining the linguistic features of suicide notes, a shift that began with Shneidman and Farberow's work in 1957 [2]. It made a distinction between real and fraudulent suicide notes. Since then, a number of studies in this subject have contributed to the identification of genuine suicide notes using linguistic traits.

Over the past two decades, various researchers, including Shapero, Desmet et al., O'dea et al., and others, have explored the linguistic features that set suicide notes apart from other genres [3-5]. Some investigated to some certain linguistic features. For example, Roubidoux studied the pronouns in suicide notes [6]. These linguistic features are then applied in detecting the emotion in suicide notes.

Based on these studies, studies by Liakata et al., Wicentowski et al., Schoene and Dethlefs and others focus on the emotion in suicide notes [7-9]. Ananieva's research on the SELF metaphor in suicide notes revealed that the author's sense of self often becomes fragmented and partially objectified, leading to a loss of autonomy [10].

Among these studies, some have focused on the speech acts of suicide notes. Sanni discovered that African suicide completers utilized various discourse and structural patterns, including metaphor, intertextuality, pronouns, presupposition, repetition, conditional statements, and intensifiers, to express a sense of agency or victimhood [11]. In addition, first-order, second-order, third-order, expert, and moral positioning were used in the suicide notes to represent the authors and target audiences. Furthermore, the building of African suicides was shaped by societal elements such as religion, sexuality, and family, which provide valuable insights into the understanding of suicidal behaviour in Africa. The case analysis by Ilzam demonstrated that apologies and requests are common speech acts in suicide notes [12]. Samraj and Gawron discussed suicide notes as a distinct genre, identifying the specific rhetorical moves within them [13]. Teixeira et al. investigated the semantic and lexical structures characteristic of suicide notes [14].

Speech act is a branch of pragmatics, which studies the intended meaning of the speech. Speech act theory was introduced by J.L. Austin in his work *How to Do Things with Words* and was later elaborated upon by American philosopher J.R. Searle [15, 16]. According to Austin, speech acts can be analysed on 3 levels, which is locutionary, illocutionary, and/or perlocutionary acts. Locutionary acts refer to the act of making an utterance. Illocutionary acts perform a certain act by making utterance. Perlocutionary acts are related to the actual effect of the locutionary and illocutionary acts. Searle extended the theory by pointing out that speakers can achieve five types of illocutionary points through propositions in an utterance: a) assertive: make commitment to the truth of the expressed proposition, with examples including asserting and concluding; b) directive: attempt by the speaker to get the addressee to do something, such as requesting or questioning; c) commissive: commit the speaker to a future action, such as promising, threatening, or offering; d) expressive: express a psychological state, with examples including thanking, apologizing, and welcoming; e) declarative: declare immediate changes in the institutional state of affairs, usually depend on complex extra-linguistic institutions, such as excommunicating, declaring war, or

christening [16].

Linguistic studies on Chinese suicide notes start later. Huang et al., Zhang et al., Lv et al. and so on calculated suicide probability in online texts with linguistic features, especially word [17-19]. Lyu et al. employs the method of text analysis and in the research of Chinese suicide notes [20]. Khoirunnisa and Delijar combined forensic linguistic approaches with the study of Chinese suicide note [21]. Generally speaking, most study focus on mere linguistic features of suicide notes. Nevertheless, research on the speaking act of Chinese suicide letters is lacking. It's clear from the earlier study that a lot of research has been done on the language used in American suicide notes. The analysis of speech acts and themes in Chinese suicide notes, however, is far from sufficient.

## 3 Methodology

### 3.1 Data

This study is based on two types of data. The first dataset consists of 10 Chinese suicide notes, which were collected from GitHub and are available as open-access data (available at <https://github.com/YabYum/ChineseSuicideNote/blob/main/ChineseSuicideNotes.json>). The second dataset includes 10 suicide notes collected from various news websites, such as the NY Post, CNN, and NY Daily News, to ensure the authenticity and reliability of the data (available at <https://www.nydailynews.com/2008/11/21/suicide-note-of-abraham-biggs-teen-whose-death-was-broadcast-via-webcam/> etc.). These remarks, which are anonymous and collected at random, reflect people from China and America of all ages, genders, and backgrounds. To guarantee a varied sample of suicide notes, variables including age, occupation, geographic location, and mode of suicide were taken into account when choosing the texts. To preserve people's privacy, personal information such as names and Social Security numbers has been omitted.

### 3.2 Speech Act

This study combines both qualitative and quantitative methods. For the qualitative part, it applies the Speech Act Theory developed by J.L. Austin and John Searle. Sentences inside the texts are separated according to punctuation. The primary speech acts in these texts are illocutionary speech acts, in accordance with Austin and Searle's approach. As thus, every sentence falls into one of the illocutionary act categories defined by Searle. The classified speech acts are then quantified and organized into a table. Examples taken from the texts are used to in-

interpret these speech acts.

### 3.3 Forensic Linguistics Approaches

The quantitative method in this study relies on the Linguistic Inquiry and Word Count (LIWC) Program and the Chinese Linguistic Inquiry and Word Count (CLIWC) program [22, 23]. These systems analyze the texts and determine the proportion of terms linked to different feelings, ways of thinking, and social issues. After that, semantic forensic theory is applied to identify and analyze individual clauses, phrases, and sentences within texts. Following the categorization of the speech acts, LIWC and CLIWC are used to further analyze the linguistic characteristics and emotional tones of each sentence within each speech act.

According to Shapero<sup>3</sup>, English suicide notes often feature a range of linguistic elements, including pronouns, positive affect words, anonymized names, misspellings, negative words like ‘not’ and ‘no’, discourse markers such as ‘please’ and ‘sorry’, future-oriented terms, knowledgeable words like ‘acquainted’ and ‘aware’, kinship references, maximum quantity terms, and high-degree intensifiers. The study of Pennebaker and Stone found that the use of first personal pronoun in suicide notes can be an indicator of the author’s self-absorption and social disconnectedness [24].

In contrast, Guan found that Chinese suicide notes are marked by negative words, social process words, cognitive and emotion process words, exclusive words, and physiological process words [25]. Li et al. and others observed that self-references and other-references are more frequent in suicide notes than in non-suicide notes [26].

According to these results, emotive and reference terms are important components of suicide notes written in both Chinese and American languages. Therefore, in order to examine the linguistic and emotional characteristics in Chinese and American suicide notes, this study will concentrate on self-references (I-words), social process words, emotional words, and emotional tendency.

### 4 Results

The speech act of each text is annotated and revised manually. After the annotation, sentences that belong to the same category of speech act within each text are compiled into separate text files. These files, each representing a specific speech act, are then grouped together into corresponding folders. Subsequently, the contents of these folders are analysed with LIWC and CLIWC. The results of this analysis are presented below. Table 1 illustrates illocutionary acts in 10 American suicide notes, and Table 2 shows those in 10 Chinese suicide notes.

**Table 1. Illocutionary Acts in 10 American Suicide Notes**

	1	2	3	4	5	6	7	8	9	10	Sum	Ratio
Assertive	3	27	5	11	24	29	29	43	5	11	187	60.13%
Directive	2	5	2	3	1	8	5	7	3	0	36	11.58%
Commissive	1	0	1	1	1	0	0	1	0	1	6	1.93%
Expressive	9	8	5	16	8	18	9	3	3	3	82	26.37%
Declarative	0	0	0	0	0	0	0	0	0	0	0	0.00%

**Table 2. Illocutionary Acts in 10 Chinese Suicide Notes**

	1	2	3	4	5	6	7	8	9	10	Sum	Ratio
Assertive	6	16	34	10	3	2	8	17	31	11	138	64.79%
Directive	3	8	9	10	0	2	4	2	3	5	46	21.60%
Commissive	0	1	0	1	0	0	0	1	0	0	3	1.41%
Expressive	3	2	2	5	2	0	5	1	3	3	26	12.21%
Declarative	0	0	0	0	0	0	0	0	0	0	0	0.00%

It can be inferred from the two tables that assertive act is the most frequent illocutionary act in suicide notes

from both American and Chinese suicides, accounting for 61.09% and 65.73%. These assertive acts serve various

functions within the notes. Additionally, both backgrounds display a high proportion of directive and expressive acts. However, there is a noticeable difference that Chinese suicide notes contain more directive acts than expressive ones, whereas American suicide notes exhibit the opposite trend.

### 4.1 Assertive Acts

Assertive speech acts make up the majority of speech acts in the suicide notes analysed in this study. These acts can be further classified into several categories based on their functions. Example (1) is translated from Chinese and (2) illustrates typical assertive acts in the suicide notes of Chinese and American individuals. These sections frequently state the circumstances surrounding the suicide, which is typically the act's primary cause, and frequently include information on the person's decision-making process. Additionally, some assertive acts provide information about the location of the individual's belongings, serving as an extension of their will, as demonstrated in example (3), which is translated from Chinese.

Examples:

(1). I was too busy to have lunch and even got criticised at the morning shift for not cleaning the office at noon. I work late into the morning and have to get up at 6:30 in the morning, taking a taxi and arriving at the department at 7:00 to work overtime. I have applied for leave, but still cannot take a rest. I need to deal with the orders, conversations, piercings, medical records, discharges, patient affairs. Patients are rushing me for the discharge. (translated)

(2). I have come to believe that my life has all been meaningless. I keep trying and I keep failing. I have thought about and attempted suicide many times in the past. I used to think of my failure as some mystical way of telling me that I was really meant for something meaningful.

(3). I have left my phone on me. The bag is in the department. There's nothing else. The password is in my phone laptop. (translated)

### 4.2 Expressive Acts

Expressive speech acts accounts for 25.08% in American suicide notes. Most of them show positive sentiments to the beloved ones, as example (4) shows, where the author expresses gratitude to their friends. Another recurring subject in expressive deeds is apology, as example (5)—which is translated from Chinese—shows. Furthermore, certain expressive speaking acts reveal pessimistic views about life and the author's situation.

Examples:

(4). The support and friendship I received from so many: Wayne Hughes, Lewis Marks, Frank Olson, Mark Packer, Bender, Bobby Kardashian. I wish we had spent more time together in recent years. My golfing buddies: Hoss, Alan Austin, Mike, Craig, Bender, Wyler, Sandy, Jay, Donnie, thanks for the fun. All my teammates over the years: Reggie, you were the soul of my pro career. Ahmad, I never stopped being proud of you ... Bobby Chandler, thanks for always being there. Skip and Kathy, I love you guys ... Marguerite, thanks for the early years. We had some fun.

(5). Sorry mom and dad, I can only repay your grace of birth afterlife. Also, sorry teacher, I know that training is not something you can control, but we were still talking about looking for a job, about graduation. Everything is so beautiful, but I don't want to see. (translated)

### 4.3 Directive Acts

Directive acts make up 11.58% of American suicide notes and 21.60% of Chinese suicide notes. Directive acts in suicide notes include asking other's cooperation on their will, especially on their belongings (see in example (6), translated from Chinese). At times, their desire has nothing to do with personal belongings but is directly related to the suicide cause, requesting that those who are still alive put an end to this occurrence (see example (7)). Another recurring motif in directive speech acts of suicide notes is giving counsel. The majority of the wishes are associated with specific objects and people, as illustrated by example (8) (which is translated from Chinese). However, some also express abstract wishes of the world as example (9) shows.

Examples:

(6). Don't change me into ugly dead clothes, I like white long dresses, just cremate me, directly cremate the ashes from the highest floor of Shishi Green Island... (translated)

(7). Please get justice.

(8). XXX, don't envy your friend me in going to another world. XXX, job in Wuhan is certainly available, there is no hurry. xxx signed it, really, dude regret it. XXX, XXX is a good place, there must be room for spring recruitment. XXX, my suggestion is that a PhD degree in any 985-university works. (translated)

(9). Take care everyone. Please, please, please be kind to one another! Treat each other with kindness and a race, There is too much anger in the world and people need to start treating each other better.

### 5 Differences in Speech Acts in Chinese and American Suicide Notes

Notably, compared to American suicide letters, Chinese suicide notes contain significantly fewer expressive acts. Rather, compared to their American equivalents, Chinese suicide notes place greater emphasis on directing acts. In addition, a comparison between examples (4) and (8) suggests that in American suicide notes, emotions such as gratitude and apology are often expressed using parallel construction, while in Chinese suicide notes, parallel construction is more commonly employed for directive acts. In addition, in (8), the author makes an idealistic and somewhat unrealistic wish that everyone will treat each other better, a type of wish that occasionally appears in suicide notes as well.

### 6 Other Speech Acts

Besides, commissive acts make up 1.93% and 1.41% of speech acts in American and Chinese suicide notes. Examples:

(10). Frances and Courtney, I'll be at your altar.

(11). I did not save money, only 5800 for my brother which I have transferred to my third aunt's account, hoping that my brother can grow up healthily... (translated)

In (11) which is translated from Chinese, the suicide promised to leave their money to their family, which is also seen in American suicide notes. In Chinese suicide notes, the commissive acts include secular acts, while in American suicide notes, some of them include religious content. In (10), the suicide promises to wait for his wife and daughter *at their altar*. Altar is a holy table in a church or temple, *at one's altar* is a metaphorical use of waiting for someone in the world of death. This commission is unguaranteed because the world of death is a religious concept and has never been verified.

### 7 Comparisons of Linguistic Features in Three Most Common Speech Acts from American and Chinese Suicide Notes

Table 3. Linguistic Features in Assertive Acts in American and Chinese Suicide Notes

		I-word	emo_pos	emo_neg	Social
American	1	11.76	0.00	5.88	11.76
	2	16.55	0.69	3.22	10.34
	3	3.30	0.00	0.00	13.19
	4	13.97	0.00	1.47	7.35
	5	9.79	4.04	1.49	12.98
	6	11.66	1.94	0.00	13.61
	7	8.75	2.53	1.56	14.20
	8	13.68	0.87	1.99	12.94
	9	7.89	2.63	0.00	13.16
	10	12.77	0.00	2.13	7.45
	AVG	11.01	1.27	1.77	11.70
	SD	3.56	1.36	1.70	2.37

Chinese	1	4.69	3.13	0.00	6.25
	2	4.43	4.80	5.90	12.36
	3	3.38	1.13	3.38	3.60
	4	12.33	1.37	4.79	11.64
	5	2.63	0.00	5.26	5.26
	6	1.49	2.99	4.48	13.43
	7	14.93	10.45	5.97	7.46
	8	2.43	1.35	4.04	6.47
	9	8.17	2.51	2.98	14.91
	10	4.70	4.71	3.53	6.67
	AVG	5.92	3.24	4.03	8.81
	SD	4.26	2.81	1.66	3.71

A clear picture of linguistic features in assertive acts in American and Chinese suicide notes can be obtained from Table 3. Self-reference words occur in general texts in both Chinese and English at the same frequency. Expressions of positive emotions are slightly more prevalent in texts written in English, whereas expressions of negative emotions are equally common in literature written in both

languages. In English literature, social words are more prevalent. However, Chinese suicide notes use half the self-reference of American ones. Chinese suicide notes show more positive emotion and negative emotion in assertive acts, while social words are more common in American suicide notes.

**Table 4. Linguistic Features in Expressive Acts in American and Chinese Suicide Notes**

		I-word	emo_pos	emo_neg	Social
American	1	17.46	6.35	1.59	28.57
	2	20	2.67	6.67	16
	3	14.29	7.14	3.57	21.43
	4	18.52	6.67	0.74	31.11
	5	9.76	8.54	7.32	18.29
	6	14.7	3.79	0.47	19.91
	7	9.35	2.8	1.87	14.02
	8	16	12	0	16
	9	17.95	10.26	0	28.21
	10	18.52	3.7	0	29.63
	AVG	15.66	6.39	2.22	22.32
	SD	3.48	3.04	2.61	6.13



Chinese	1	11.39	3.8	6.33	13.92
	2	12.5	4.17	8.33	4.17
	3	7.69	2.56	7.69	10.26
	4	6.98	2.33	0	6.98
	5	9.09	0	0	27.27
	6	0	0	0	0
	7	5	10	2.5	22.5
	8	0	10	0	0
	9	16.67	3.33	3.33	3.33
	10	4.62	3.08	4.62	9.23
	AVG	7.39	3.93	3.28	9.77
	SD	5.04	3.32	3.16	8.7

Table 4 gives a clear picture of linguistic features in expressive acts in both contexts. It can be deduced that Americans show more positive feelings in expressive speech acts and make twice as many references to themselves and other people in their suicide notes as do Chinese people.

**Table 5. Linguistic Features in Directive Acts in American and Chinese Suicide Notes**

		I-word	emo_pos	emo_neg	Social
American	1	0.00	0.00	0.00	45.45
	2	15.84	2.97	1.98	12.87
	3	4.76	0.00	0.00	14.29
	4	14.70	5.88	0.00	14.71
	5	0.00	0.00	0.00	16.67
	6	8.24	0.00	0.00	21.18
	7	6.00	2.00	0.00	22.00
	8	2.27	0.00	1.14	23.86
	9	14.29	5.71	0.00	25.71
	10	0.00	0.00	0.00	0.00
	AVG	6.61	1.66	0.31	19.67
	SD	6.05	2.29	0.65	11.05
Chinese	1	0.00	11.76	2.94	2.94
	2	5.49	6.10	4.88	9.15
	3	4.49	0.00	1.12	5.62
	4	6.59	6.59	8.38	11.98
	5	0.00	0.00	0.00	0.00
	6	12.50	12.50	0.00	25.00
	7	12.50	4.17	0.00	16.67
	8	2.86	8.57	5.71	8.57
	9	5.00	5.00	0.00	17.50
	10	1.85	9.26	3.70	3.70
	AVG	5.13	6.40	2.67	10.11
	SD	4.24	4.10	2.81	7.36

Table 5 illustrates linguistic features in directive acts in suicide notes from two countries. In this table, the ratio of

self-referential words (“I-words”) is equal in the suicide notes from both countries. On the other hand, American suicide notes had around twice as many social words than Chinese suicide letters. Furthermore, Chinese suicide notes have more expressions of positive emotion in these acts than do American suicide notes, which exhibit comparatively little emotion in these acts.

## 8 Discussion

According to the results, assertive acts that describe the situation of the suicide and their social background account for more than half of a suicide note in both culture, which aligns with the findings of previous studies. The emotional tone of the directive and forceful acts in the suicide notes from both countries is generally consistent, with expressive acts frequently displaying a spike in emotion. Moreover, positive emotions are more prevalent than negative ones, which is consistent with the findings of Osgood & Walker<sup>[27]</sup>.

As Samaj points out, apart from addressing recipient, explanation is the second common move, expressing wishes is the third frequent move in suicide note [13]. This pattern holds true in Chinese suicide notes but does not apply to American suicide notes. Additionally, when explaining their situation, American individuals tend to show more self-awareness. However, the frequent appearance of social words in these notes suggests that their suicide behaviours are not entirely disconnected from society. This is because the suicide-related information on the internet and family issues, especially family’s attitude towards suicide, would affect individual’s suicide behaviours<sup>[28]</sup>. Chinese suicide notes had a lower ratio of social words among the three speaking actions than American suicide notes, suggesting that Chinese suicides are more solitary than American suicides. This is because Chinese people are more inclined to turn their suffering inward and are supposed to adapt to their surroundings rather than try to change them [29]. Additionally, they are less likely to discuss their mental problems openly than American suicides as mental issues, especially suicide attempts, are taboo in Chinese culture [30].

According to Teixeira et al., suicide notes are rich in positive concepts such as “love”, “take”, “go” and “way”, which are mainly expressed in expressive speech acts, especially in American ones [14]. On the other hand, some of the positive concepts are expressed in directive speech acts as good wishes. It can be inferred that despite the desperation of the suicides themselves, they still maintain

good will to others, and believe they will be better off in the future.

Directive acts in American suicide notes are more social connected than that in Chinese suicide notes, which suggests that American individuals may be more inclined to address specific requests or advice to others, indicating a continued concern for social relationships even in their final moments. On the other hand, the directive behaviors in Chinese suicide notes that are less socially connected may indicate that the authors of these notes felt more alone when writing their suicide notes.

Due to the availability, this study only selected ten texts for each corpus. Future research could greatly benefit from obtaining a larger dataset, enabling more comprehensive and macro-level analyses. More detailed study on speech acts of suicide notes across different demographics, regions, and time periods can be made. Additionally, larger datasets could facilitate the development of more sophisticated analytical tools, such as machine learning models, to identify subtle linguistic features of suicidal intention. These advancements could enhance suicide prevention and verification of suicide notes.

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