Research on Subjective Quantity Expression and Focus Expression Function of Modal Adverb "Jiu" in Modern Chinese

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Abstract. This paper uses experimental phonetics to prove that the modal adverb "jiu 2" which expresses a strong subjective attitude must be the focus, indicating a great subjective quantity, and the modal adverb "jiu 1" which expresses confirmation is often used as the focus, and its subjective quantity of expression is not as strong as "jiu 2". The subjective quantities of the adverb "jiu" are in the following order: the adverb "jiu" expressing the limited scope, the modal adverb "jiu" expressing confirmation, and the modal adverb "jiu" expressing the subjective attitude. The paper points out that the research on "subjective quantity" should not stop at the increment and decrement of quantity, but should really explore the strength and weakness of the speaker's subjective attitude and semantic weight, which is the more comprehensive metalinguistics additivity.

Introduction

There are a lot of research achievements in the academic world about the subjective quantity meaning and focus expression of "jiu". Chen Xiaohe(1994: 21) thinks that "jiu" means subjective small quantity, whether it refers to the front or back. In the sentences "San ben jiugou le" and "liu sui jiushangxue le", "jiu" refers to the front, which helps to express subjective small quantity.[1] Zhang Yisheng（1999:45-46）has the same point of view. He points out that the semantic orientation of "jiu" is the decrement emphasis whether to the left or to the right. [2]Wang Qun (2005:18-23) holds that the subjective large quantity and subjective small quantity are not the basic meaning of "jiu". The basic meaning of "jiu" is to mean that "time is short". Other semantics evolves from this basic meaning. She argues that "jiu" is not the focus itself, but it can highlight the focus, and its semantic orientation is consistent with the information focus of the sentence in which it is located. On the basis of right direction, "jiu" derives from the basic meaning of "short time" to "a definite rang", and then to the meaning of a more determinate mood.[3]LvShuxiang(1984:104) also studies the focus problem of "jiu" sentence. He points out that "jiu" can be read lightly or stressed in the sentence "Ni jiuqu ma?", and "jiu" must be read lightly in "Jiao niqunijiuqu ma?"[4] For the first "jiu", when it is read lightly, it is the adverb of time, and when it is stressed, it is the modal adverb. The second "jiu" is the associated adverb, that is to say, he thinks that when "jiu" is used as a conjunction adverb, it must be read lightly.

The usage of the small quantity of "jiu" that refers to the front or back is the usage of metalinguistics additivity, and this usage is developed from the meaning of "proximity" and "short time" of "jiu". The further development of the semantics of "jiu" is to express exclusivity, that is, the "jiu" that confirms tone develops into a modal adverb "jiu" which expresses a strong subjective attitude. With the strengthening of the subjective quantity of "jiu", it is difficult to judge whether it refers to the front or back, because it carries a great deal of subjective quantity, expresses a subjective attitude towards the whole proposition and is a full commentary. What is the focus expression when "jiu" is used as a modal adverb at this time? We try to explore its subjective quantity expression and focus expression by means of experimental phonetics.

Experimental Explanation

Ten undergraduate and graduate students aged between 18 and 22 in the first and second grade of

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Yunnan Normal University were selected to record, among which there were 5 boys and 5 girls, and their mandarin level was second highest and above. During the experiment, they were required to read two sentences in mandarin, “Wo neng wang wo, nijiubuneng!” and “Ni rang wo qu, wo jiubuqu”. Before reading, they were not told the purpose of reading. The recording was as follows: The recording and segmentation software was Praat5.2.33, the sampling rate was 11025HZ, with 16 bits and single track. Students were required to read each sentence three times, the interval between sentences is 4m, with natural state and smooth speech speed.

Analysis of Experimental Phonogram

We first used the minispeechlab software developed by Nankai University to take the “nijiu”, “bu”, “neng” and “wo”, “jiu”, “buqu” as the prosodic words to analyze the frequency values of each word. In order to reduce the difference of individual pronunciation and emphasize the commonality of pronunciation, the formula St=12*lg(f/fr)/lg2 (“f” denotes the Hertz value to be converted, and “fr” denotes the reference frequency, with 55Hz for men and 64Hz for women)was used to convert the frequency value into the semitone value in the logarithmic domain, and then the formula Ki=100*(Gi–Smin)/(Smax–Smin) (Smax is the upper half tone value of the whole sentence pitch range, and Smin is the lower half tone value of the sentence pitch range) was used to calculate the percentage of 9 points per word(minispeechlab software takes the pitch data from 9 points of each word). The maximum and minimum values were found to make Fig.1 to Fig.14.

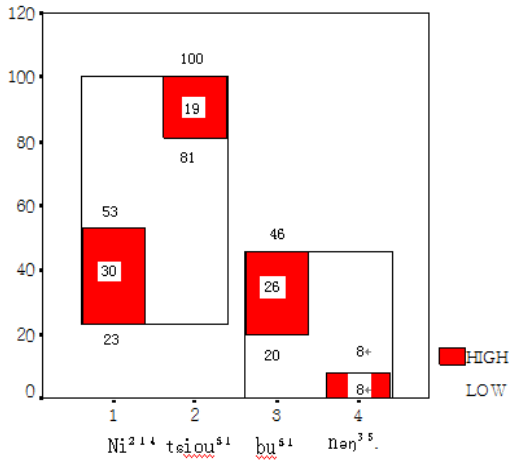

Figure 1. Diagram of “jiu 1” of Cui Mengjiao

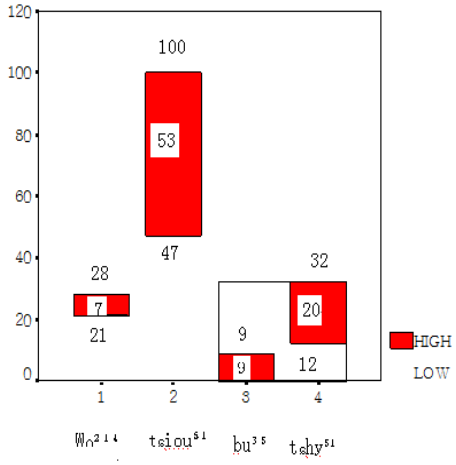

Figure 2. Diagram of “jiu 2” of Cui Mengjiao

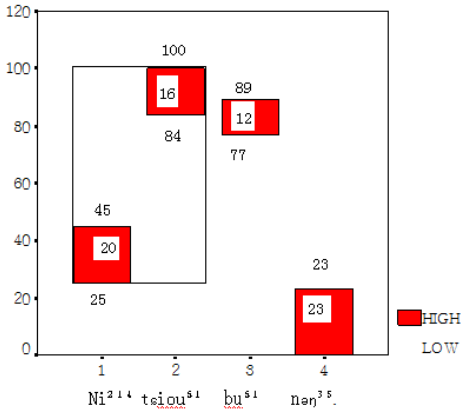

Figure 3. Diagram of “jiu 1” of Liu Jia

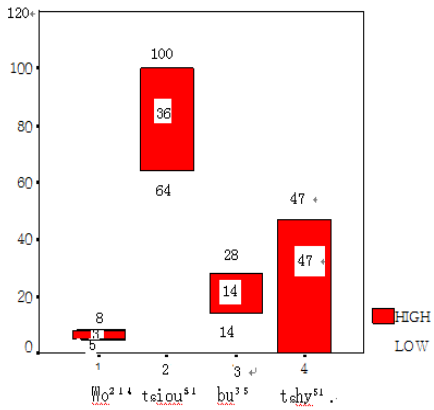

Figure 4. Diagram of “jiu 2” of Liu Jia

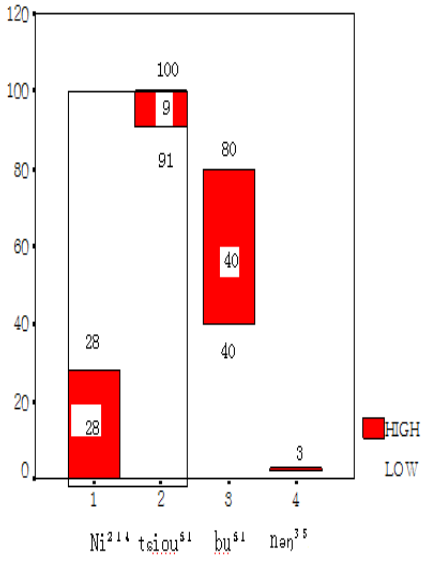

Figure 5. Diagram of “jiu 1” of Liao Yaping

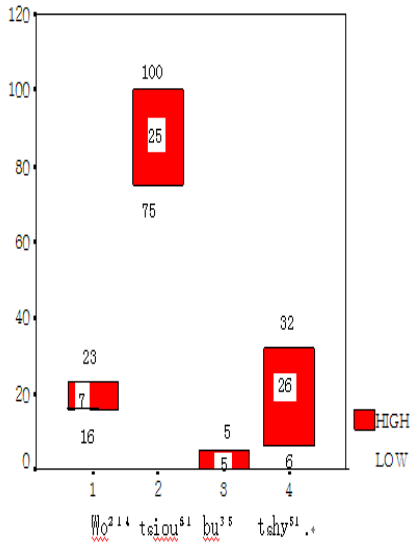

Figure 6. Diagram of “jiu 2” of Liao Yaping

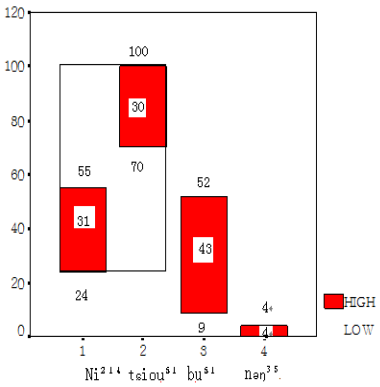

Figure 7. Diagram of “jiu 1” of Tang Mohan

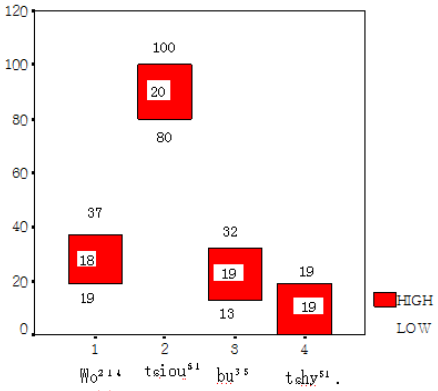

Figure 8.Diagram of “jiu 2” of Tang Mohan

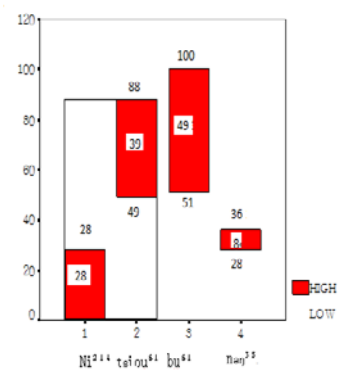

Figure 9. Diagram of “jiu 1” of Niu Sheng

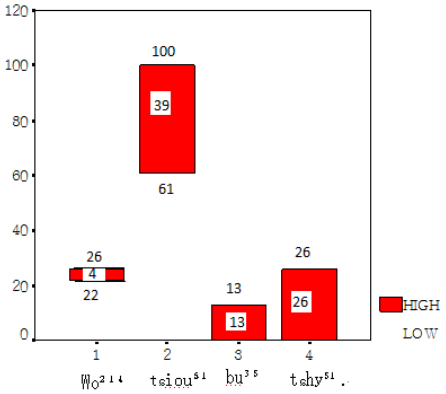

Figure 10. Diagram of “jiu 2” of Niu Sheng

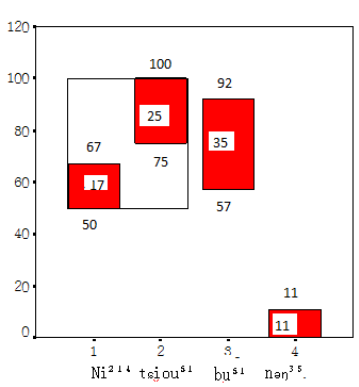

Figure 11.Diagram of “jiu 1” of Wang Shuyao

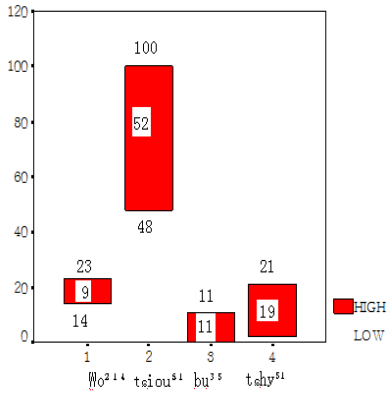

Figure 12. Diagram of “jiu 2” of Wang Shuyao

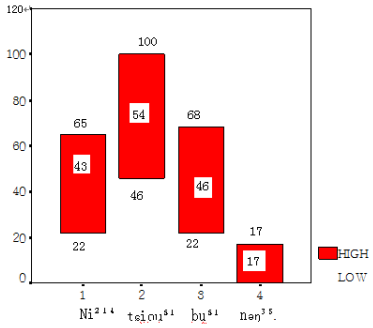

Figure 13. Diagram of “jiu 1” of Wang Wenxiu

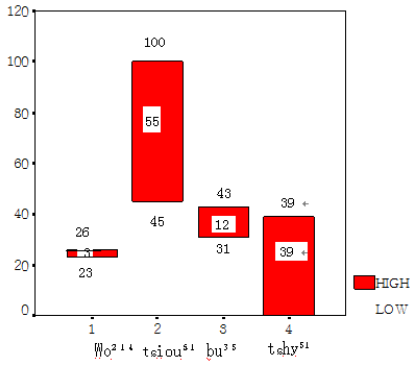

Figure 14. Diagram of “jiu 2” of Wang Wenxiu

In addition to the above seven subjects, there were three more. In percentage span diagrams of “jiu 1” of other three students, two cases are similar to Fig.7, and one is similar to Fig.13. In percentage span diagrams of “jiu 2” of them, one case is similar to Fig.2, and two cases are similar to Fig.6.

From the phonogram of “jiu 1”, it can be seen that there are three conditions when it is used as the focus: First, the focus is “buneng”(The upper line of the percentage of “bu” reaches the maximum value of the whole sentence, and its range span is also the maximum value of the whole sentence), “jiu” is the secondary stress(Its upper line of the range and scale span are all second), and there is only one case in Fig.5. Second, “jiu” is obviously a narrow focus stress, which is in line with the characteristics that the focus stress falls on the non-falling-rising tone syllable phrases, the pitch curve of the phrase is convex, the scale of the syllable before the convex peak rises slowly, and the scale drops suddenly after the convex peak pointed by Lin Maocan(2015:41)[5], and there are two cases in this situation (Fig. 13). Third, “nijiu” is the focus. The frequency percentage of “jiu” in Fig.1, Fig.3, Fig.5, Fig.7 and Fig.11 is “100”, which is the maximum value of the whole sentence. The pitch of the prosodic word “buneng” after “jiu” drops sharply, but the expansion of the range of “jiu” is not the largest in the whole sentence. The pronunciation of “jiu” is rather heavy at this time. It forms a prosodic word with the preceding syllable “ni”, acting as the focus of the whole sentence. In these cases, the percentage span of “nijiu” is sometimes larger than “buneng”, and sometimes slightly lower than “buneng”, so we feel that “nijiubuneng” are heavier in language sense. Phonetic experiment analysis shows that “nijiu” is slightly heavier than “buneng”. there are 7 cases of that “jiu 1”. In a word, there are 9 cases of “jiu” in the sentence of “jiu 1” as the focus, 2 cases of which “jiu” acts as the narrow focus directly, and 7 cases of which “jiu” acts as the focus together with “ni”.

The percentage span diagram of “jiu 2” sentence shows that there are 7 cases of “jiu” with the

highest pitch of the whole sentence and the largest range span of the whole sentence, and the pitch of the syllable “bu” behind it drops suddenly. These characteristics show that “jiu2” is the narrow focus of the whole sentence. There are 3 cases in Fig.6 that the upper line of the percentage of “jiu” is the highest in the whole sentence, but its range span is not the largest in the whole sentence. Its pronunciation is not as heavy as the preceding 7 cases, but it is still the narrow focus of the whole sentence.

Through the analysis of the percentage of syllables in the two sentences, it can be seen that “jiu 2” is generally heavier than “jiu 1”and expresses stronger semantics.

The Analysis of the Pronunciation Duration of “jiu” in Two Sentences

The two important features of focus are pitch and duration. What is the duration of each focus in the sentence? We used the formula of Shi Feng(2013:191) [6]for calculating the time delay rate: Dx=Sx/S# (Dx stands for the pause rate of a syllable x, Sx stands for the natural duration of the syllable x in a sentence, and S# stands for the average duration of the syllable in the sentence for each speaker) to calculate the pause delay rate of duration of each Chinese character in “jiu 1” sentence and “jiu 2” sentence of 10 speakers, and the Table 1 was made.

Table 1 The pause delay rate of each word in “jiu 1” sentence and “jiu 2” sentence

Pause delay rate / Subjects	“jiu 1” sentence				“jiu 2” sentence			
	ni	jiu	bu	neng	wo	jiu	bu	qu
Cui Mengjiao	1.25	0.75	1.03	0.97	1.11	1.11	1.06	0.73
Liu Jia	1.38	0.81	0.45	1.35	0.81	0.86	1.06	1.27
Liao Yaping	0.98	0.61	0.79	1.63	1.06	0.86	1.18	0.9
Tang Mohan	1.38	0.72	1.21	0.69	1.28	1.01	0.94	0.77
Niu Sheng	1.22	1.12	0.72	0.95	1.25	0.99	1.17	0.6
Wang Shuyao	1.12	0.8	0.88	1.2	1.06	1.19	0.88	0.88
Wang Wenxiu	1.18	0.82	0.82	1.18	1.01	1.3	0.62	1.06
Wang Yihao	1.44	0.84	0.76	0.96	1.1	0.95	0.85	1.1
XieHuiting	1.12	0.8	0.85	1.24	1.35	0.67	1.09	0.89
Zhang Zhenglin	1.34	0.71	0.85	1.1	1.23	1.55	0.74	0.49

We can see that except the pause delay rate of “jiu1” of Niu Sheng, which is 1.12 greater than 1, the pause delay rate of “jiu 1” of others is less than 1. While the “jiu” in the “jiu 1’ sentence of Niu Sheng is not the focus, other subjects’ “jiu 1” serves as the focus. Therefore, we carried out the paired sample test for the pause delay rate of “jiu 1” and “jiu 2” of the other nine subjects. The results are shown in Table 2.

Table 2 The paired sample test of the pause delay rate of “jiu 1” and “jiu 2” of nine subjects（**Paired Samples Test**）

		Paired Differences					t	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
					Lower	Upper			
Pair 1	jiu1 -jiu2	-.2933	.27870	.09290	-.5076	-.0791	-3.157	8	.013

It can be seen from Table 2 that the results of paired samples are t=-3.157, p=0.013<0.05. There is a significant difference in the pause delay rate between ‘jiu 1” and “jiu 2” when they are the focus. The pause delay rate of “jiu 2” sentence is 0.2933 larger than that of “jiu 1”, which means that it takes longer to read “jiu 2” than “jiu 1”. This also shows that the pronunciation of “jiu 2” is heavier than that of “jiu 1”.

Paired Sample T Test forFrequency Halftone Data of “jiu 1” and “jiu 2” of Ten Subjects

Through test, the frequency halftone data of “jiu 1” and “jiu 2” of ten subjects conformed to normal distribution, and the variance is homogeneous. We carried out the paired sample T test for the two. The results are shown in Table 1 and Table 3.

Table 3 Statistical data of “jiu 1” and “jiu 2” frequency halftone values（**Paired Samples Statistics**）

		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	jiu1	21.0200	10	4.40060	1.39159
	jiu2	23.3800	10	4.15228	1.31307

Table 4 Correlation analysis of statistical data of “jiu 1” and “jiu 2” frequency halftone values（**Paired Samples Correlations**）

		N	Correlation	Sig.
Pair 1	jiu1 &jiu2	10	.950	.000

Table 5 Paired sample test for “jiu1” and “jiu2” frequency halftone statistics

		Paired Differences					t	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
					Lower	Upper			
Pair 1	jiu1 - jiu2	-2.360	1.37764	.43565	-3.3455	-1.3745	-5.417	9	.000

From Table 4, we can see that there is a significant positive correlation (p=0.000<0.05) of statistical data of frequency halftone values between “jiu 1” and “jiu 2”, and the correlation coefficient is as high as 95%. From Table 5, it can be seen that there is a significant difference of the frequency halftone values between “jiu 1” and “jiu 2”(p=0.000<0.05). The frequency halftone value of “jiu 2” is 2.36 higher than that of “jiu 1”, which further indicates that the pitch of “jiu 2” is higher than that of “jiu 1”, and the pronunciation of “jiu 2” is heavier than that of “jiu 1”. Because of the high data correlation between the two, it also shows that our experimental data is very effective and the conclusion is convincing.

Conclusions

From our experiment, it can be seen that when “jiu 2” expresses a strong subjective attitude, it must act as the focus. It is read heavily and has a long duration. When “jiu 1” indicates confirmation, it also tends to be the focus, but the pronunciation of it is not heavier than “jiu 2” and the duration is shorter than “jiu 2”. Therefore, from the expression of subjective quantity, “jiu 2” is stronger than “jiu 1”. Huang Jiaojun and Tan Shandan(2007: 88-92) point out that in the sentence “Ta gong fujiuna me yixiazi”, “jiu” refers to the back, but “you na me yixiazi” is positive and affirmative, so at this time, “jiu” expresses subjective large quantity. [7]In fact, if the “jiu” here is the adverb of scope and is the meaning of “only”, it indicates that that the quantity is mall subjectively, generally known as the academic circles “subjective small quantity”, but if it is a confirmed mood adverb, it is subjectively sure that the quantity is large, that is, “subjective large quantity”. Therefore, the

subjective attitude quantity expressed by “jiu” itself should be like this:

A scope adverb “jiu” expressing limitation<An adverb “jiu” expressing confirmation mood<A modal adverb “jiu” expressing strong subjective will

Our study of subjective quantity should not only focus on the “increment emphasis” and “decrement emphasis” on quantity. We should study the quantity of subjective attitude comprehensively, which is the real metalinguistics additivity.

Acknowledgements

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