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Gender Stereotype in Prosody: Japanese Interactional Particles *Ne* and *Yo*[1]

MIE HIRAMOTO-SANDERS
University of Hawai'i at Mānoa

0. Introduction

In this paper, I will focus on how prosody affects the interpretation of gender-neutral interactional particles *ne* and *yo* in Japanese. The interactional particles are potential sites for stereotyping, and "males have flatter intonation patterns than females do in pitch range and pitch heights" (McConnell-Ginet 1983: 73). Based on these assumptions, a purpose of the paper is to find possible answers for the following research questions: 1) Will gender stereotype characteristics appear on some of the most frequently used particles such as *ne* or *yo*? and 2) Will female-style speech, in general, will be more emphasized than male-style speech?

Interactional particles are discourse markers, and by their nature "loosely placed at various points of utterances in conversation" (Reynolds 2000:88). Previous research tried to explain the different functions of the interactional particles in a categorical way. However, there are limitations to this kind of analysis because such particles are emphatic and vague in meaning when used as discourse markers. In other words, it is very difficult to say that *ne* marks an affirmation or *yo* marks a suggestion the way one can say that *ga* marks nominal case or *o* marks accusative case. For example, the following sentence can be interpreted in different ways according to the prosodic value on the interactional particles.

(1)	*Ashita*	*ginkoo*	*ni*	*itte*	*ne.*
	tomorrow	bank	to	go	IP[2]
	'(I) will go to the bank tomorrow, and . . . .'				(↗)
	'(Please) go to the bank tomorrow.'				(↘)

[1] I would like to express my sincere gratitude to Benjamin Bergen, Ryoko Hattori, Vincent Kiste, Tomoko Kozasa, Hsiu-Chuan Liao and everyone at UHM who gave me helpful suggestions and comments or participated in this study.

[2] Abbreviations used in this paper are: IP = Interactional Particle, COP = Copula, INT = Interrogative marker, GEN = Genitive marker, NEG = Negative marker

When interpreting the meanings of Japanese interactional particles, prosodic features (e.g., intonation, pitch, duration) cannot be ignored, because prosodic features change their meanings.

1. Intonational Characteristics of Japanese

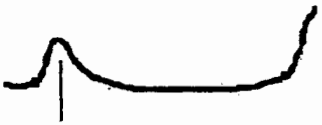
Ladd (1996:6) defines intonation as "the use of *suprasegmental* phonetic features to convey 'postlexical' or *sentence-level* pragmatic meanings in a *linguistically structured way*." Japanese is a pitch language, and it is important to clearly separate the notions of pitch and stress from intonation. For a pitch language like Japanese, the following minimal pairs are possible.

(2) *kame* 'vase' / *kame* 'turtle' (3) *hashi* 'bridge' / *hashi* 'chopsticks'

Intonation, but not a pitch accent, is relevant to prosody in Japanese interactional particles. In Japanese, the intonation patterns are most likely to change at phrasal boundaries (such as before a long pause or at a sentence-final position). This point is important since Japanese interactional particles are most likely to occur at phrasal-ending positions. Ueyama and Jun (1996:110) compared how native English speakers and Japanese ESL speakers produce the rising intonation patterns in an English interrogative sentence, and found that the English speakers raise the intonation gradually (as in (4)), whereas the Japanese ESL speakers raise their intonation abruptly at the end of the sentence (as in (5)).

(4) English native speakers

(5) Japanese speakers



This suggests that the intonational features are condensed at the phrasal boundaries in Japanese, whereas they are stretched through longer suprasegmental material in English. The intonation pattern in (5) shows a good example of a prosodic contour being placed at the phrasal boundaries by the Japanese ESL speakers. The same is true for Japanese speakers speaking Japanese (Eda 2000), as seen in the following English and Japanese sentence patterns.

(6) It's cold, isn't it?

(7) *Samui desu ne.*
cold COP IP
It's cold, isn't it?

(8) It's cold, you know.

(9) *Samui desu yo.*
cold COP IP
It's cold, you know.

2. Gender and Prosody

Interactional particles (except *ne*) are often regarded as discourse markers that typically occur at sentence-final positions and signal speakers' attitude toward the content of the utterance or toward the addressees. Some interactional particles are used exclusively by speakers of a particular gender, while others are used as gender-neutral forms. Although Shibamoto (1985:176) suggests that *ne* is a feminine particle, others consider it to be gender-neutral (McGloin 1990, Eda 2000, Reynolds 2000). This paper follows the latter assumption on the treatment of *ne*. As for the other interactional particle *yo*, it is widely recognized as gender-neutral.

Some interactional particles are gender-exclusive (i.e., linguistic forms that are exclusively used by one gender) in Japanese. For example, '*ze*' and '*zo*' are gender-exclusive interactional particles for male speakers in Japanese, regardless of prosodic features, as in (10).

(10)	*Sandoicchi*	*taberu*	*ze/zo.*	
	Sandwich	eat	IP	
	'(I will) eat a sandwich.'		(↗ or ↘)	(masculine, *feminine)

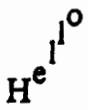
'*Wa*' is often defined as a feminine interactional particle, but specifying gender depends on prosody, as in (11).

(11)	*Sandoicchi*	*taberu*	*wa.*	
	Sandwich	eat	IP	
	'(I will) eat a sandwich.'		(↗)	(feminine, *masculine)
	'(I will) eat a sandwich.'		(↘)	(masculine or dialectal[3], *feminine)

Thus, prosody is important when interpreting gender in Japanese interactional particles. There are different interpretations of sentence-final intonation patterns that are independent from each sentence's inherited grammatical or lexical features. (For English intonation patterns, see Pierrehumbert & Hirschberg (1990).)

"Variation" of intonation, as defined by McConnell-Ginet (1983:72) is "an alternative way of uttering the 'same' linguistic unit." This can be demonstrated by the following pairs of examples.

(12) Female speakers



(13) Male Speakers

[3] Kansai Dialect spoken in Western Japan.

As shown in (12) and (13), although both males and females utter this word in the same rising intonation pattern, 'hello' of females is, in general, higher in pitch and longer in duration than 'hello' of males. These characteristics are probably due to a general rule that female voices have higher pitch as well as wider pitch range than those of males. In other words, males have flatter and lower intonation patterns than females do (McConnell-Ginet 1983:73).

Japanese interactional particles function as discourse markers in a form of "audible gestures" (Bolinger & Sear 1981:110) to convey paralinguistic meanings. That is, Japanese interactional particles are potential stereotyping sites, including gender stereotyping.

3. Methodology

To examine gender-stereotyping assumptions among Japanese speakers, sets of gender-neutral sentences (sentences that could be naturally articulated by both male and female speakers) that contain *ne* and *yo* were formulated. Three male and three female native speakers of Japanese in their 20's and 30's participated in a production test. To avoid dialectal variation in the use of particles and intonation, all of the informants[4] were native speakers of Tokyo Standard Japanese. PitchWorks program was used to digitize and analyze the data. The data collection took place in a recording studio at the University of Hawai'i in April 2001.

The informants were asked to read the sentences in three different ways: first, naturally (natural speech, or NS); second, male-like (masculine speech, or MS); and lastly, female-like (feminine speech, or FS). For the MS and FS parts, the informants were told to pretend that they were going through auditions for a theater play, acting male and female roles using the same lines. The same six sentences listed below were used for all three speech styles (NS, MS, and FS), thus, a total of 18 sentences were collected from each informant. The sentences used for the production test are:

(14) Sentence-external *ne*
Ne, bideo demo miru?
IP, video how about watch
'Say, do you want to watch a video?'

(15) Sentence-medial *ne*
Anta[5] *ne, dooshite itsumo okurete kuru no*?
you IP why always late come INT
'You, why do you show up late all the time?'

[4] The informants' names used in this paper are pseudonymous.
[5] *Anta* is a casual form of *anata* 'you' in Japanese. It is frequently used in informal conversations.

(16) Sentence-final *ne* (channeling)
Ashita no dyinaa tanoshimi da ne.
tomorrow GEN dinner exciting COP IP
'Aren't you excited about tomorrow's dinner?'

(17) Sentence-final *ne* (back-channeling)
[*Yokatta, butsuri-no tesuto heikin-ten wa atta yo.*
good physics-GEN test average-score at least there is IP
'Thank goodness, I made average on my physics test.']
Sorenara anshin da ne.
in that case no worries COP IP
'(You) do not have to worry about it anymore, then.'

(18) Sentence-final *yo* (channeling)
Nee nee, sore-ja nai yo.
say say that-COP NEG IP
'Say, it's not that one.'

(19) Sentence-final *yo* (back-channeling)
[*Kono jikan Jinbo-san moo neteru kana?*
this time Jinbo-san already sleeping INT
'Do you think Jinbo-san is sleeping already at this time?']
Un, moo juuji da yo.
yeah already ten o'clock COP IP
'Yeah, it's ten o'clock already.'

The criteria that I used for selecting the utterances for the data are 1) a total of four possible positions that *ne* may occur (one sentence-external, one sentence-medial, and two sentence-final positions of channeling and back-channeling functions), and 2) a total of two possible positions that *yo* may occur (two sentence final positions of channeling and back-channeling functions).

4. Results

For this study, the results of the production test were divided into different categories according to their tonal structures, which are rising (↗), falling (↘), rising with a scoop (↘↗), and falling with a scoop (↗↘). I analyzed the male group and female group data separately; first, let us discuss the results from the male group.

All of the male speakers shared the same category (falling with a scoop ↗↘) in all three speech patterns (NS, MS, and FS) for the sentence in (15). In the tables below, 'Initial Pitch' means the beginning pitch of the interactional particle, "Rising Pitch Range (RPR)' and "Falling Pitch Range (FPR)' indicate how much the pitch went up and down based on the peak of the contour tones, and 'Ending

Pitch' indicates when the interactional particle ended in the utterance. 'Duration' refers to the duration of the particle.

(20) Falling with a Scoop (↗↘) in NS of the Male Group in Sentence (15)

	Yuuji	Takuya	Norio	Average
Initial Pitch	139	99	118	118.7
RPR	12	6	6	8
FPR	31	11	31	24.3
Ending Pitch	120	92	93	101.3
Duration	461.1	303.3	266.9	343.7

(21) Falling with a Scoop (↗↘) in MS of the Male Group in Sentence (15)

	Yuuji	Takuya	Norio	Average
Initial Pitch	117	96	92	101.7
RPR	30	14	21	21.7
FPR	26	24	35	28.3
Ending Pitch	121	86	78	95
Duration	366.8	247.9	337	317.2

(22) Falling with a Scoop (↗↘) in FS of the Male Group in Sentence (15)

	Yuuji	Takuya	Norio	Average
Initial Pitch	123	117	98	112.7
RPR	52	13	10	31
FPR	49	20	24	31
Ending Pitch	126	110	84	106.7
Duration	708.9	261.2	398	456

I compared the durations of the interactional particles. The overall average of the durations in FS were longer than MS or NS, as shown in (20)-(22) as well as in (23).

(23) Male Group's Duration of *Ne* and *Yo* (ms.)

		NS	MS	FS	Average
Ne	External	201.7	223.6	227.6	**218.3**
	Medial	343.8	317.2	456.0	**372.3**
	Final C[6]	232.8	230.9	272.1	**245.3**
	Final BC[7]	199.2	194.8	356.9	**250.3**
Average		**244.3**	**242.1**	**328.2**	**271.6**
Yo	Final C	176.6	197.6	240.3	**204.8**
	Final BC	127.8	130.2	208.5	**155.5**
Average		**152.2**	**163.9**	**224.4**	**180.2**
Total Average		**198.3**	**203.0**	**267.3**	**225.9**

This means that the male informants were extending the duration (except for the external use of *ne*) when articulating FS to add feminine features in their speech.

[6] C =Channeling
[7] BC =Back-Channeling

On the other hand, MS did not differ much from NS. For both *ne* and *yo*, FS carried the longest duration, while NS and MS did not show much difference in their duration. Now, let us consider the distributions of the intonation patterns.

(24) Male Group's Distributions of the Intonation Patterns

		NS				MS				FS			
		↗	↘	↗↘	↘↗	↗	↘	↗↘	↘↗	↗	↘	↗↘	↘↗
Ne	External		3				3				2	1	
	Medial			**3**				**3**				**3**	
	Final C	2		1		1	1	1		3			
	Final BC	3				3				2		1	
Yo	Final C	2	1			1	2			1	1		1
	Final BC	3				3				1	1		1
	Total	10	4	4	0	8	6	4	0	7	4	5	2

As shown in 24, among the four types of intonation, the contour tones were less frequently used than the non-contour tones by both male and female speakers, and also in all three speech styles. However, the male informants increased the use of contour tones for FS more than they did in NS and MS. This is partly due to the extension of duration in articulation (the longer the duration is, the more time the speakers have to manipulate contour tones on the interactional particles). Nevertheless, from the data, it is clear that the speakers were using contour tones to emphasize their femininity in FS, while the differences between NS and MS were not so obvious. The boldface numbers in the table indicate that the three male in formants uttered sentence (15) in the same intonation pattern. (PitchWorks images are available in the Appendix, Figures (1)-(3).)

Now, let us look at the results from the female group. Generally speaking, prosodic characteristics of the female speakers, compared to the males, are higher pitch levels, wider pitch range, and longer durations. Naturally, the female informants' NS were articulated with higher pitch levels (about 100 Hz higher on average) than the male group. The female informants shared the same falling (↘) tone of *yo* in the sentence (18).

(25) Falling (↘) in NS of the Female Group in Sentence (18)

	Rika	Michiko	Sayuri	Average
Initial Pitch	174	246	248	222.7
Ending Pitch	149	177	151	159
Pitch Range	25	29	97	50.3
Duration	197.7	223.4	438.3	286.5

(26) Falling (↘) in MS of the Female Group in Sentence (18)

	Rika	Michiko	Sayuri	Average
Initial Pitch	165	200	190	185
Ending Pitch	145	167	149	153.7
Pitch Range	20	33	41	31.3
Duration	150.2	250.3	185.9	195.5

(27) Falling (↘) in FS of the Female Group in Sentence (18)

	Rika	Michiko	Sayuri	Average
Initial Pitch	174	211	255	213.3
Ending Pitch	157	117	153	142.3
Pitch Range	13	94	102	69.7
Duration	278.3	296.8	491.6	355.6

As shown in (25)-(27), the informants' overall pitches are lower, pitch ranges are narrower, and durations are shorter in MS, whereas the opposite prosodic characteristics were evident in FS. The same results were observed in the duration of other sentences as seen in (28).

(28) Female Group's Duration of *Ne* and *Yo* (ms.)

		NS	MS	FS	Average
Ne	External	225.3	249.8	383.2	**286.1**
	Medial	281.6	254.2	302.0	**279.3**
	Final C	271.2	310.5	318.6	**300.1**
	Final BC	207.5	239.3	455.3	**300.7**
	Average	**246.4**	**263.5**	**364.8**	**291.6**
Yo	Final C	286.5	195.5	355.6	**279.2**
	Final BC	160.4	100.4	351.6	**204.1**
	Average	**223.5**	**148.0**	**353.6**	**241.7**
	Total Average	**234.9**	**205.7**	**359.2**	**266.6**

Again, the longest duration is seen in FS. The duration of *yo* is especially short in MS compared to that of NS in this group. This suggests, first, that the female informants were trying to articulate *yo* in MS shorter than NS (it is not caused by some idiosyncratic characteristics of one speaker in the data). Second, the female informants also lengthened their duration in FS to add femininity in their speech. The average duration of *yo* was shorter than *ne* among the male speakers by about 100 ms. For the female speakers, the difference in the duration is only evident in MS. It suggests that the female informants were trying to articulate *yo* in MS shorter to add masculine feature. Table (29) below shows the overall occurrences of the intonation patterns in the female group. The boldface numbers in the table indicate that the three female informants produced sentence (18) in the same intonation pattern (↘), as shown in (25)-(27). (PitchWorks images are available in the Appendix, Figures (4)-(6).)

(29) Female Group's Distributions of the Intonation Patterns

		NS				MS				FS			
		↗	↘	↗↘	↘↗	↗	↘	↗↘	↘↗	↗	↘	↗↘	↘↗
Ne	External		3			1	2				1	1	1
	Medial		1	2			3			3			
	Final C		2	1			2	1			2	1	
	Final BC	2	1				3				2	1	
Yo	Final C		**3**				**3**				**3**		
	Final BC	3				1	2			3			
	Total	5	10	3	0	2	15	1	0	6	8	3	1

In the female group, the speakers used more falling tones in MS than in other speech styles. The falling tone in Japanese has a more assertive connotation than does the rising tone. It gives a less vague and firmer feel to utterances. The female informants used the falling tones in MS to increase masculinity in their speech when asked to add gender-stereotypical features in their speech. At the same time, these informants made use of 'less assertive' rising tones more frequently in FS.

5. Discussion

According to the results of the production tests from the male group, gender stereotyping is more evident in FS than MS. Male speakers lengthened the interactional particles and used more contour tones in FS, whereas their NS and MS did not show many differences in the use of prosody. For the female speakers, MS was characterized by shorter duration and falling tones. They showed longer durations and more contour tones when adding stereotyping features in FS than the male informants did. The average pitch of NS in male informants was about 150Hz, while it was about 250Hz in the female group. As for FS, both groups exaggerated the femininity in unnaturally high pitch intonation, as high as 400 to 500Hz for some samples. These results suggest that the prosodic features expressed in the interactional particles demonstrate gender-stereotyping.

In addition to the anatomical reasons for the prosodic differences between the male and female speakers, there seem to be language-specific reasons that contribute to the stereotyping of FS as it appeared in the data. In Japanese, male and female speakers are culturally expected to show differences in their use of prosody. Endo (1995:37) states that "women are apt to adopt a distinctive tone of voice, carriage, and behavior" in addition to "a high-pitched voice." Furthermore, Japanese women have been traditionally disciplined to speak with those vocal manners from the *Heian* period (9^{th} to 12^{th} centuries) (Endo 1995:37), and Japanese male audience still expect women to speak in "a soft, gentle, nonthreatening tone" (Endo 1995:39). In addition, Loveday (1986) and Ohara (1994) point out that the socio-cultural factors in the Japanese language encourage women's use of higher pitches and longer duration since they are often connected with politeness to a certain extent.

6. Conclusion

In this study, stereotypes in Japanese interactional particles *ne* and *yo* were examined. My research questions were, 1) will gender stereotype characteristics appear on some of the most frequently used particles such as *ne* or *yo*, and 2) will female-style speech uttered by speakers, in general, be more emphasized than male-style speech? A production test was conducted to find answers for the questions, and the results suggest that the prosodic features expressed in the interactional particles *ne* and *yo* do show gender-stereotyping.

From a socio-cultural perspective, historically speaking, Japanese language seems to favor less-assertive manners in the use of prosody in females' speech. This cultural factor highlights some of the stereotypical features in the results of the production test. As strongly suggested by Eda (2000), in order to understand how these particles function in the language, one must pay attention to the use of prosody. She describes "the most serious deficit of the works mentioned so far" as a lack of understanding in "apparent variation in meaning under variation in sentence final intonation" that relates to interactional particles as well as intonation patterns (Eda 2000:170-171). This study is based on a limited amount of data; therefore, more studies on the relations between interactional particles and prosody are needed in the future.

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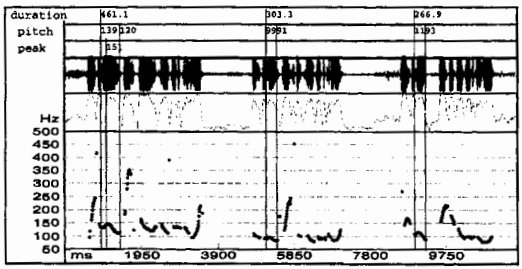
Mie Hiramoto Sanders
569 Moore Hall
University of Hawai'i at Mānoa
1890 East-West Road, Honolulu, HI 96822

mies@hawaii.edu

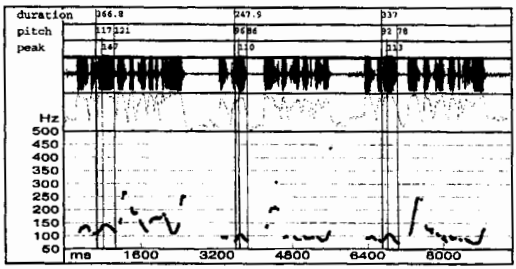
Appendix

PitchWorks Figures of the sentence (15) and (18).

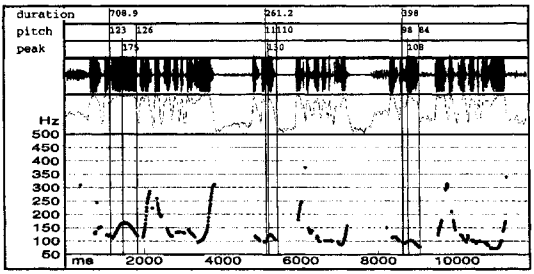
(1) Falling with a Scoop (↗↘) in NS of the Male Group



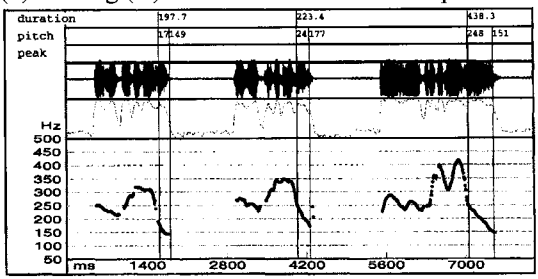
(2) Falling with a Scoop (↗↘) in MS of the Male Group



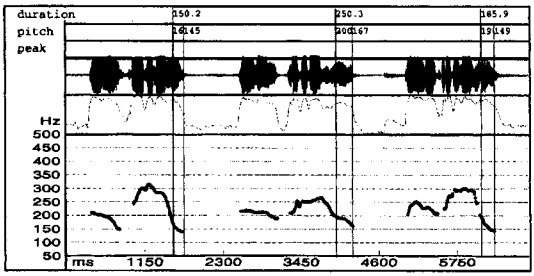
(3) Falling with a Scoop (↗↘) in FS of the Male Group



(4) Falling (↘) in NS of the Female Group



(5) Falling (↘) in MS of the Female Group



(6) Falling (↘) in FS of the Female Group