Perception of Politeness in Mandarin Speech by Spanish Learners of Mandarin

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ABSTRACT

Perceptual judgment of politeness in speech is highly correlated with prosodic characteristics, and may also be language-dependent. We conducted a crosslinguistic perceptual experiment, in which 42 subjects (14 native Mandarin speakers, 14 naïve Spanish speakers, and 14 Spanish learners of Mandarin) rated the degree of politeness for 38 sets of Mandarin utterances produced by 4 native speakers – each set of 4 utterances was a combination of two speech acts (request vs. command) and two sentence modes (interrogative vs. imperative). Results showed that a number of factors, including language background, speech act, and sentence mode, had significant effects on the perceptual results. Although interrogatives generally gave higher politeness score than imperatives, the effect was more conspicuous in Spanish learners of Mandarin than in the other two groups, suggesting that L2 learners' judgement of politeness might be interfered by their poor integration of acoustic-phonetic information and linguistic information.

Keywords: politeness, speech act, sentence mode, speech perception, Mandarin, Spanish, L2 learner.

1. INTRODUCTION

It is well known that speech prosody plays crucial roles in expressing politeness [3], and many recent studies have focused on examining the prosodic cues for politeness, including duration, pitch, and voice quality. While some researchers consider prosodic characteristics in polite speech to be universal [11, 9], many recent studies have shown that prosodic cues are language-specific [12, 14, 2, 10].

Spanish and Mandarin, which are typologically far from each other, seem to differ in the prosodic mechanism of expressing politeness. For example, Devís [4] suggested that intonation was very important for perceiving politeness in Spanish, while Fan and Gu [7], after conducting a perceptual experiment on a set of synthetic speech stimuli reported that duration was a more important cue for politeness than F0 in Mandarin.

The effects of L1 prosodic transfer on L2 pragmatic competence have recently attracted interests among phoneticians and language teachers [5, 6]. Some researchers have even started studying the process of L2 phono-pragmatic acquisition [1].

Given the fact that there is a lack of literature on the production-perception relationship in L2 phono-pragmatic acquisition and that nowadays most studies on L2 pragmatic development have focused on lexico-grammatical strategies and oversee the importance of prosodic strategies for expressing politeness, a cross-linguistic study on prosodic cues of politeness may shed some light on this issue. Gu et al. [8] investigated crosslinguistic perception of Mandarin utterances conveying, among others, polite and rude attitudes by comparing politeness ratings from native Mandarin speakers, Japanese and French L2 learners of Mandarin, and naïve Japanese and French speakers without Mandarin ability. The results showed that L2 learners judged better than naïve foreigners in all cases. Also, the studies of requests and commands in L2 learning of Chinese have generally focused on the acquisition of lexico-grammatical strategies for mitigating directive acts [13]. These might lead foreign language teachers to teach lexico-grammatical strategies for politeness without taking prosody into account. For example, Wen [13] showed that in Chinese, imperatives with a polite word 请(please) and interrogatives can convey politeness. However, the sentences with the same lexicogrammatical information can be produced as polite or impolite by using different prosodic strategies.

Therefore, this study aims to examine how command and request speech in Mandarin with the same lexico-grammatical information, varying also in interrogative and imperative modes, are perceived by the listeners with different language backgrounds.

2. SPEECH DATA

2.1. Text materials

To elicit the utterances of two speech acts (command vs. request) and two sentence modes (imperative vs. interrogative), we designed 16 monologues, in each of which 3 target sentences were embedded. For prompts, we also designed 8 contextual situations, 4 of which were used to elicit

commands and the other 4 to elicit requests. The contextual situation to elicit commands included:

(1a) An angry husband/wife asks his/her partner to help at home and spend more time with him/her.

(2a) An angry father asks his son to stop playing with the phone and go to the market to buy some things.

(3a) A worried person asks his careless roommate to switch off the lights so that they can afford electricity bills.

(4a) An angry teacher asks his noisy students to close the door and the windows so as to start the class.

Correspondingly, the contextual situations to elicit commands included:

(1b) A sick husband/wife requests his/her partner to do the household chores and stay with him/her at home.

(2b) A boy/girl requests his/her girl/boyfriend to go to the market to buy some things for him/her because it is freezing outside.

(3b) An office worker leaving the office asks his/her colleague to switch off the lights before leaving the office.

(4b) A student requests his/her classmate to close the door and windows because he cannot hear the teacher.

Each contextual situation was used for two monologues which differed only in the sentence mode of the target sentences. Also, each pair of contextual situations elicited the same set of target sentences. For example, corresponding to (1a) and (1b), two monologues shared the following imperative target sentences:

- 帮我打扫一下屋子吧. [Help me clean the house.]
- 请洗下衣服. [Please clean the clothes.]
- 晚上早点回来吧. [Please come back early tonight.]

while two other monologues shared the following interrogative target sentences:

- 可以帮我打扫一下屋子吗?
  [Could you help me clean the house?]
- 你能洗下衣服吗?
  [Could you please clean the clothes?]
- 晚上能早点回来吗?
  [Could you please come back early tonight?]

Thus, there were 48 target sentences, including 12 pairs of imperatives and 12 pairs of interrogatives. Each pair of sentences sharing the same text were to be produced as a command and a request.

2.2. Informants

Four native speakers of Mandarin (2M, 2F) were recruited as informants, who were undergraduate or graduate students at the Nanjing Normal University, aged between 23 and 29 years. All of them had a proficiency of Mandarin at Grade 2, Level I. They were reasonably paid for their speech recording.

2.3. Speech recording

Before recording, the informants were given 10 minutes to read all contextual situations and monologues, so as to get familiar with the materials. To guarantee the naturalness and interactiveness of speech communication, one of the authors explained all contextual situations to the informants before the recording of each monologue. The recording took place in a sound-proof booth after the informants had got sufficiently familiar with the materials. A cardioid microphone (Neumann U87Ai) was placed 20 cm in front of their mouths. The microphone was connected to an audio interface RME Fireface 800 which was connected to a desktop computer outside the soundproof booth.

3. PERCEPTUAL EXPERIMENT

3.1. Stimuli

After a perception validation test conducted by four native Mandarin judges, the target utterances that could not be identified as clearly polite or impolite were excluded from the data. Thus, altogether 152 target utterances (i.e., 4 utterances per set * 38 sets) were used as stimuli in the perceptual experiment through the online platform SurveyGizmo, in which audio files could be embedded.

3.2. Participants

There are three sets of participants in the perceptual experiment, including 14 Spanish naïve speakers (7M, 7F) who had never learned Chinese and never been living in a Mandarin-speaking environment, 14 Spanish learners of Mandarin at the beginner level (7M, 7F), and 14 native speakers of Mandarin (7M, 7F). All participants had at least bachelor degrees and were aged between 25 and 45 years. None of them had a reported history of auditory or cognitive disorder.

The stimuli were presented to the participants in a random order. Participants could listen to each stimulus as many times as they wanted but were advised to listen only once. The participants were asked to score the politeness of the stimuli on a 5-point semantic differential Likert scale, with -2 indicating the least polite, and 2 indicating the politest. The test was presented in Mandarin to the Mandarin native speakers, and in Spanish to the naïve Spanish speakers and the Spanish learners of Mandarin. They were advised to have a break when

feeling tired. All participants completed the experiment in about 30 minutes.

4. RESULTS

A linear mixed model analysis was conducted on the results of the perceptual experiment, with politeness rating as the dependent variable, Listener's language background, Speech act, Sentence mode, and their interactions as fixed effects, and Subject, Item and Speaker as random effects. Statistical analysis was conducted using the Jamovi project, version 0.9.

Following other researchers [14], we will only report *p*-values for the interaction effects since significance of main effects is not meaningful without taking significant interaction effects into account. Significant interaction effects were found between Listener's language background and sentence mode ($p < .001$), and between Listener's language background and speech act ($p < .001$), but not between sentence mode and speech act.

Bonferroni post-hoc tests showed that there was a significant difference ($p = .010$) in the ratings between native Mandarin speakers and Spanish learners of Mandarin, whereas there was no significant difference between native Mandarin speakers and Spanish naïve speakers. While all three groups perceived the difference between commands and requests, the perceived degree of politeness in commands was significantly different between native Mandarin speakers and Spanish learners of Mandarin ($p < .001$).

Simple effect analysis showed that, while there was no significant difference in perceiving requests, Spanish learners of Mandarin gave significantly higher ratings to commands than Mandarin native speakers ($p < .001$), as indicated in Fig. 1. Adding sentence mode to the analysis, we can find that Spanish learners of Mandarin gave lower politeness scores to imperative requests (Fig. 2) and higher politeness scores to interrogative commands (Fig. 3).

Spanish naïve listeners also gave higher politeness scores to interrogative commands and requests than native Mandarin speakers, but the difference in scores was more significant between Spanish learners of Mandarin and native Mandarin speakers, as shown in Table 1.

Figure 1: Politeness rating by language background and speech act.

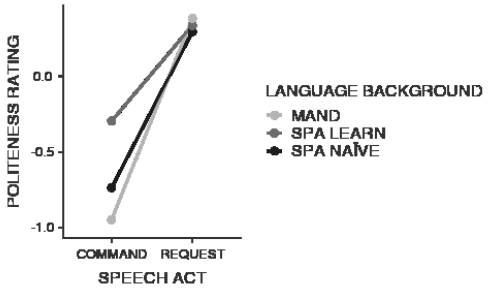


Figure 2: Politeness rating of imperative utterances by language background and speech act.

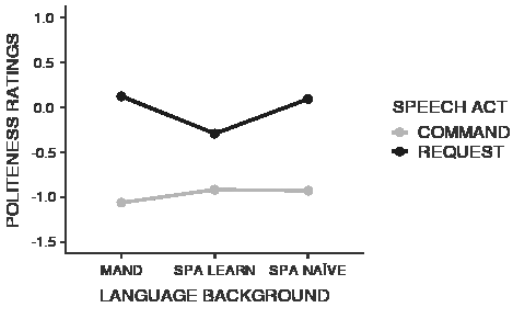


Figure 3: Politeness rating of interrogative utterances by language background and speech act.

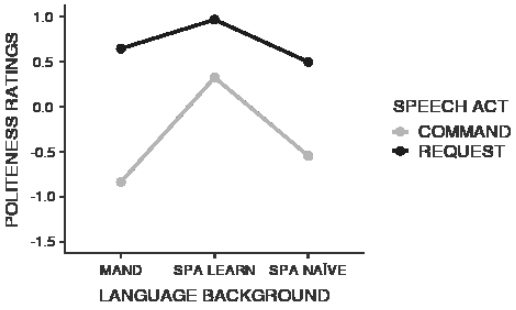
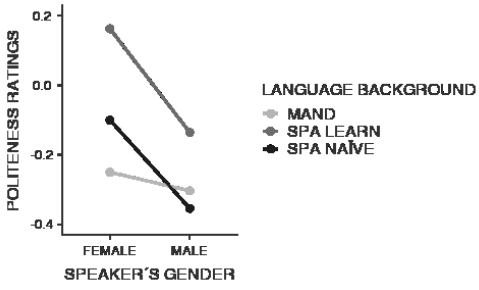


Table 1: Simple effects of language background.

Moderator levels					95% Confidence Interval				
SENTENCE MODE	SPEECH ACT	contrast	Estimate	SE	Lower	Upper	df	t	p
IMPERATIVE	COMMAND	SPA NAÏVE - (MAND, SPA NAÏVE, SPA LEARN)	0.0405	0.0712	-0.0991	0.1802	Inf	.	0.569
		SPA LEARN - (MAND, SPA NAÏVE, SPA LEARN)	0.0521	0.0712	-0.0875	0.1918	Inf	.	0.464
	REQUEST	SPA NAÏVE - (MAND, SPA NAÏVE, SPA LEARN)	0.1190	0.0712	-0.0206	0.2587	Inf	.	0.095
		SPA LEARN - (MAND, SPA NAÏVE, SPA LEARN)	-0.2671	0.0712	-0.4067	-0.1274	Inf	.	<.001
INTERROGATIVE	COMMAND	SPA NAÏVE - (MAND, SPA NAÏVE, SPA LEARN)	-0.1936	0.0709	-0.3325	-0.0547	Inf	.	0.006
		SPA LEARN - (MAND, SPA NAÏVE, SPA LEARN)	0.6767	0.0709	0.5378	0.8156	Inf	.	<.001
	REQUEST	SPA NAÏVE - (MAND, SPA NAÏVE, SPA LEARN)	-0.2061	0.0709	-0.3451	-0.0672	Inf	.	0.004
		SPA LEARN - (MAND, SPA NAÏVE, SPA LEARN)	0.2638	0.0709	0.1249	0.4027	Inf	.	<.001

Figure 4: Politeness ratings of speakers by gender groups.



Thus, the significant interaction between the Listener's language background and speech act is due to the fact that Spanish learners of Mandarin gave higher politeness scores to interrogative utterances than the other two groups.

Although gender effect was not within our research goals because we only had two speakers per gender group, we did find an interesting pattern from the current data. As shown in Fig. 4, while native Mandarin speakers felt male and female speech equally polite, Spanish naïve listeners and native Spanish learners of Mandarin felt female speech more polite than male speech. Whether this reflects any gender effect needs to be tested on a larger corpus in the future study.

5. DISCUSSION AND CONCLUSIONS

The main goal of this study was to compare three groups of subjects with different language backgrounds in their subjective perception of politeness in Mandarin request and command utterances, and to examine whether sentence mode had an effect on politeness ratings.

We conducted a perceptual experiment, in which 42 subjects (14 native Mandarin speakers, 14 naïve Spanish speakers, and 14 Spanish learners of Mandarin) rated the degree of politeness for 38 sets of Mandarin utterances – each set of 4 utterances was a combination of two speech acts (request vs. command) and two sentence modes (interrogative vs. imperative). Results of the perceptual experiment showed that there was no significant difference in the perceived degree of politeness between Spanish naïve participants and native Mandarin speakers, but Spanish learners of Mandarin felt interrogative utterances politer than imperative utterances. This suggests that in rating politeness, naïve listeners can rely only on acoustic-phonetic (including prosodic) features which may result in a good judgement, while L2 learners attend more to linguistic information and may make mistakes if they lack the ability to integrate linguistic and acoustic-phonetic information appropriately. Results also suggest that Spanish learners of Chinese tend to make a wrong association between interrogative sentence mode and polite speech act, which is not the case for native speakers of Mandarin. We conjecture that Spanish learners of Chinese associated the high-pitched sentence-final 'ma' particle in interrogatives with a polite expression. Finally, results show that L1 transfer is not the only reason for L2 errors, either in production or perception. Many other factors may affect the L2 learning process.

6. ACKNOWLEDGEMENT

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