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# Pragmatic comprehension development in intermediate Japanese learners: A longitudinal study

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**Abstract**

This paper examines how L2 Japanese pragmatic comprehension of hedged indirect speech develops in intermediate second language learners and investigates the impact of social contact on acquisition. A longitudinal study was conducted using accuracy scores, reaction times from pragmatic listening tests, and learner self-reports. Qualitative and quantitative analyses suggest that (1) more accurate and faster processing of indirect speech intentions is associated with longer stays in the target language environment, and (2) learners develop accuracy in comprehending indirect speech intentions before they improve processing speed. The results also indicate that both the quality and frequency of social contact play important roles in acquiring pragmatic comprehension skills, as learners with more intensive social contact show greater improvement. These findings support the idea that pragmatic competence development is closely related to language socialization.

**Keywords**: comprehension skills; implicatures; L2 Japanese; longitudinal study; pragmatic development

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## 1. INTRODUCTION

Recently, as studying abroad has become increasingly popular, a growing body of research has focused on the development of second language (L2) learners' pragmatic competence. While numerous studies have examined the development of L2 pragmatic production skills, fewer have addressed receptive skills (Pérez-Vidal & Shively, 2019). However, the ability to comprehend pragmatic meaning receptively is essential for smooth communication, yet it remains difficult for L2 learners to acquire. This difficulty appears to stem from the complex nature of pragmatic competence; that is, learners must recognize the mismatch between a literal utterance and the intended meaning and reprocess the information to infer the implied message (Taguchi, 2012).

In the field of L2 Japanese pragmatic development, research has examined the productive use of hedging expressions (Iwasaki, 2013), Japanese sentence-final forms (Mine, 2015), and the speech act of refusal (Beuckmann, 2019). However, studies on receptive pragmatic skills in L2 Japanese are notably lacking. Furthermore, we still have limited understanding of how the language environment influences the acquisition of L2 Japanese pragmatics.

This paper addresses an under-researched area. It presents findings from a longitudinal study that demonstrate how receptive pragmatic competence in L2 Japanese develops over time. It also explores how the surrounding language environment influences this development.

### 1.1 Literature Review

#### 1.1.1 *Ability of L2 Learners to Comprehend Pragmatics*

Previous studies on L2 learners' comprehension of pragmatic implication have adapted Grice's (1975) maxims of conversation. These studies examine the understanding of various types of indirect meaning, such as direct and indirect speech acts (e.g., Cook & Liddicoat, 2002), irony (e.g., Bouton, 1992), and jokes (Schively, 2013). Most focus on English as a Foreign Language (EFL) learners or on learners of L2 Chinese (Taguchi et al., 2013) and L2 Spanish (Taguchi et al., 2016). Only a few investigate the pragmatic comprehension skills of learners of Japanese, such as Taguchi (2008) and Zhang (2017). In particular, Taguchi (2008) and Zhang (2017) found that hedging expressions—like the adverb chotto or the sentence-final particle kana—lead to faster reaction times than non-conventional speech acts. However, the results differed in terms of accuracy.

Previous research has primarily examined whether learners can comprehend implied meaning in an L2; however, very few studies have addressed the development of this comprehension through a longitudinal design (Taguchi & Yamaguchi, 2019, p. 43), particularly in the context of L2 Japanese pragmatics. In addition, hedging expressions are not only realized through a variety of linguistic forms—such as lexical items, negative questions, and incomplete sentences—but are also highly context-dependent and closely tied to cultural factors, making their appropriate use particularly challenging for L2 learners (Fraser, 2010). However, to the best of our knowledge, little discussion has addressed the acquisition of comprehension abilities related to these expressions.

As Taguchi (2019) argues, longitudinal research has the potential to reveal how pragmatic competence, especially that including hedges, changes over time and what factors influence its development.

### 1.2. *Pragmatic Development and Study Abroad Environment*

In this study, "study abroad" is defined, following Coleman (2013), as undertaking all or part of a university education in a foreign country. Study abroad is widely regarded as effective in facilitating the development of pragmatic competence. However, several studies have found that not all study abroad experiences are equally impactful. Factors that influence learning outcomes can be categorized into three variables: (1) macro-level input and interaction features of the study abroad environment, (2) micro-level learner differences, and (3) program design features (Pérez-Vidal & Shively, 2019). Bardovi-Harlig and Bastos (2011) found that the intensity of interaction, rather than proficiency or length of stay, had the greatest influence on improving recognition of conventional expressions. Taguchi's (2012) longitudinal study further indicates that individual L2 learners' language learning experiences are closely related to their developmental trajectories. While these insights are useful, it is still unclear exactly how the skills improve and how much of a role social interaction has in the development of pragmatic competence.

### 1.2. Research Questions

Based on the preceding sections, it is reasonable to assume that L2 Japanese learners' pragmatic competence improves over time. Studying abroad also facilitates this development. However, how pragmatic comprehension skills improve and the role of social interaction during study abroad remain unclear. Therefore, this study proposes the following two research questions for L2 Japanese learners studying abroad in Japan:

1. How does the ability to comprehend speakers' intentions in indirect speech acts containing hedging expressions develop?

2. To what extent do factors related to the language environment influence L2 learners' pragmatic development of comprehension skills?

## 2. METHOD AND MATERIALS

### 2.1 Participants

Forty-three graduate and undergraduate students residing in the northeastern region of Japan participated in this study. All participants read an information sheet outlining the handling of personal data and research ethics, and provided written informed consent prior to taking part in the study. They were divided into two groups: 20 non-native speakers (NNSs) of Japanese, aged 23-30 (M=24.6, SD=3.0), and 23 native speakers (NSs) of Japanese, aged 18-26 (M=20.8, SD=2.6). The NNSs had lived in Japan for a period ranging from two to 72 months (M=27.5, SD=23.0). Their Japanese proficiency was at an intermediate level, as determined by the Simple Performance-Oriented Test (SPOT Ver. 901) (M= 70.0, SD= 6.8). Participants in the NNS group came from six different linguistic backgrounds: eight were Mandarin speakers; one spoke Indonesian; three spoke Italian; two spoke Vietnamese; and one participant each spoke Spanish, German, and Arabic. Among the 23 NNSs, seven were short-term exchange students, and 13 were conducting their studies or research in English. None of the NNSs spoke any languages other than their first language (L1) and Japanese, majored in Japanese language education or linguistics, or had prior work experience using Japanese. The NS group participated in order to provide baseline data for the listening task.

### 2.2. Materials

Into assess the NNSs' pragmatic development of comprehension skills, a Pragmatic Listening Test (PLT) was administered. The study also included a Language Contact Profile (LCP) questionnaire and a retrospective interview. These were used to examine how the language environment and social contact influenced the NNSs' pragmatic development.

#### *2.2.1. PLT*

A Pragmatic Listening Test (PLT) was developed to investigate L2 learners' pragmatic development of comprehension skills. Previous studies have employed a range of methods, including answering written multiple-choice questions after reading dialogues (e.g., Bouton, 1992), listening to audio recordings (e.g., Taguchi, 2008), and watching videos (e.g., Schauer, 2006). In the present study, listening comprehension tests were constructed based on Taguchi (2012) and Zhan (2017), for the following two reasons: firstly, the test needed to incorporate phonetic information, as intonation plays a key role in the conventionality of indirect speech acts (Searle, 1975); and secondly, it was important to minimise variation in response times resulting from differences in character processing speed and accuracy. The PLT used in this study followed the frameworks of Taguchi (2012) and Zhan (2017). All items were scripted and subsequently recorded in standard Japanese by one male and one female speaker from the Kanto region of Japan.

The PLT comprised fifty-four questions in total: four practice items, thirty-five filler items, and fifteen experimental items. Each item included a brief situational context, a comprehension question, and four short dialogue turns in Japanese. Grammar, vocabulary, and speaking speed were standardized to align with the N2–N3 levels of the Japanese Language Proficiency Test (JLPT2). The three dialogue types presented in each situation were controlled for mora count, ensuring that the overall length of the conversations remained approximately equal.

The fifteen experimental items involved three types of indirect disagreement expressions across five different situational contexts. In each dialogue, one hedging expression was appended to the final utterance. The hedging expressions represented three linguistic forms: the sentence-final particle kana indicating doubt, kana denoting mitigation, and negative questions with rising intonation. These expressions were selected as representative examples of pragmatic markers that are infrequently used by L2 learners of Japanese, regardless of their L1 background or proficiency level (Author, 2019; 2020). Sample items are presented in Table 1.

**Table 1.**

***Sample of PLT items***

| | |
|---|---|
| (1) | *Kaigishitsu de, otoko no hito to onna no hito ga, pa-tey wo keikaku shiteimasu.*<br>[A male and a female are planning a party in a conference room.] |
| (1a) | Indirect Disagreement (with *kana* denoting doubt)<br>*Otoko no hito wa, kaigishitsu de pa-teywo suru koto ni sansei shiteimasu ka?*<br>[Is the male in favor of having the party in the conference room?] |
| | Female: *Paatey no basho, doushi-masu ka?*<br>[Where do you think we should hold the party? ] |
| | Male: *Soudesu ne…, resutoran toka izakaya toka….*<br>[Well, a restaurant, or an izakaya (type of restaurant in Japan)…] |

| | | |
|---|---|---|
| | Female: | *Ja, kono kaigishitsu ni shimasen ka?*<br>[Then, what about this conference room? ] |
| | Male: | *Kono heya de pa-tey ga dekiru kana….*<br>[I wonder if we could have a party in this room... ] |
| (1b) | Indirect Disagreement (with *kana* denoting mitigation)<br>*Onna no hito wa nichiyoubi ni, pa-tey wo suru koto ni sansei shiteimasu ka?*<br>[Is the female in favor of having a party on Sunday? ] | |
| | Male: | *pa-tey no hinichi, doushi-masu ka.*<br>[When do you think we should hold the party? ] |
| | Female: | *Soudesu ne…, kinyoubi toka doyoubi toka….*<br>[Well, Friday, or Saturday…] |
| | Male: | *Ja, nichiyou no yoru ni shimasen ka?*<br>[Then, what about Sunday night? ] |
| | Female: | *Shuumatsu wa, minna, arubaito kana.*<br>[Maybe everyone works a part time on the weekends. ] |
| (1c) | Indirect Disagreement (with negative question)<br>*Onna no hito wa， Sumisu san wo yobu koto ni sansei shiteimasu ka?*<br>[Is the female in favor of inviting Mr/Ms. Smith to the party? ] | |
| | Male: | *Ryuugakusei wa, dare ni renraku shi masu ka?*<br>[Who do you think international students should contact? ] |
| | Female: | *Soudesu ne ～.Guen-san toka Oh-san toka...*<br>[Well, Mr/Ms. Nguyen or Mr/Ms. Wang.... ] |
| | Male: | *Ja, Sumisu san mo yobi masen ka?*<br>[Then, what about Mr/Ms. Smith? ] |
| | Female: | *Sumisu san wa, isogashiku nai desu ka?*<br>[Isn't Mr/Ms. Smith busy? ] |

All questions were embedded in E-Prime 3.0, a psychological experiment software, and configured to present the items in random order, automatically proceeding to the next item after each response. The software recorded both reaction time and response accuracy. During the experiment, participants were instructed to keep their right (or left) hand on the response buttons at all times. They were also instructed to answer each question as quickly and accurately as possible by pressing the button with their index finger for "yes" and with their middle finger for "no".

### *2.2.2. LCP Questionnaire and Retrospective Interviews*

A study-abroad environment is, in itself, a complex variable that influences several other variables, including the quantity and quality of input available to learners, as well as the opportunities they have to use the language communicatively and meaningfully (Bardovi-Harlig, 2013).

The Language Contact Profile (LCP) questionnaire was developed based on Bardovi-Harlig and Bastos (2011) and Taguchi (2012). It was designed to gather information about the language environment of non-native speakers (NNSs), and asked about the total amount of time spent per week on the following activities: (1) watching videos; (2) interacting on social networking sites (SNS); (3) interacting with faculty and staff; (4) interacting with friends and acquaintances; and (5) interacting with service workers. The questionnaire also included questions on: (6) any languages other than their

L1 used on a daily basis; (7) whether they had close Japanese friends; and (8) their living environment (e.g., living alone, in a dormitory, or with Japanese people).

To supplement the PLT and LCP data, the first author conducted semi-structured interviews with each participant following the PLT. In relation to the PLT, participants were asked whether they had previously encountered similar conversations, what they found difficult, and why they found it difficult. Regarding the LCP, participants were asked to elaborate on particularly long or short activity times for each item and to explain the reasons behind them.

### 2.3. Data Analysis

#### *2.3.1 PLT*

The pragmatic development of NNSs was investigated in terms of accuracy and comprehension speed. Accuracy was used to assess NNSs' pragmalinguistic knowledge, including paralinguistic information, while comprehension speed measured the speed of access to that knowledge. For accuracy, a total score was calculated by awarding 1 point for each correctly judged speaker intention and 0 points for incorrect answers. The maximum score for each of the three types of items with hedging expressions — "kana" (doubt), "kana" (mitigation), and negative questions — was 5 points, resulting in a total maximum score of 15 points for all correct responses. Reaction time was recorded in milliseconds, but only for correct answers. Reaction time was measured from the end of the dialogue to the participant's response. Responses with reaction times under 100 ms and those outside the range of mean ± 2 standard deviations were excluded as outliers, and the mean reaction time was then calculated.

Since the data did not pass the Shapiro-Wilk test of normality, Friedman tests were conducted to examine differences in accuracy and reaction times across Times 1, 2, and 3. Kendall's W was reported as a measure of effect size, and Nemenyi tests were performed for post-hoc analysis. Due to the non-parametric nature of the data, Spearman's rank correlation analysis was carried out to explore correlations between changes in accuracy and reaction time.

#### *2.3.2. LCP Questionnaires and Retrospective Interviews*

Language Contact Profiles (LCPs) were quantified and averaged using the following scale: 0 for no hours per week, 1 for 1–3 hours, 2 for 3–7 hours, and 3 for more than 7 hours. Non-quantifiable data and interview responses were analysed qualitatively. Finally, all survey and interview data were compared with the results of the pragmatic listening comprehension test, and their relationship to comprehension ability is discussed.

## 3. RESULTS

This section reports the following results: quantitative data from the PLT, and qualitative data from the LCP questionnaires and retrospective interviews conducted throughout the survey period.

### 3.1. Pragmatic development

The average scores and comprehension times for the PLT are presented in Table 2. The mean score (out of 15) for the NNS group was 11.9 (SD = 2.32) at Time 1, 12.7 (SD = 2.03) at Time 2, and 12.7 (SD =

1.98) at Time 3, gradually approaching the NS group's score of 14.8 (SD = 0.40). A Friedman test indicated a statistically significant difference over time with a medium effect size, Q = 7.53, p = .02, W2 = .25.Post hoc analysis (Nemenyi test) revealed a significant difference between Time 1 and Time 3 (p = .04), while no significant differences were found between Time 1 and Time 2 (p =.06)), or between Time 2 and Time 3 (p = .98).

**Table 2.**

***Average score of non-native speakers over time***

| Median (*SD*) | | |
|---|---|---|
| Time 1 | Time 2 | Time 3 |
| 11.9 (2.32) | 12.7 (2.03) | 12.7 (1.97) |

The mean reaction time for the NNS group was 1,423.4 ms (SD = 1464.4) at Time 1, 692.4 ms (SD = 497.5) at Time 2, and 792.6 ms (SD = 961.4) at Time 3, gradually approaching the NS group's average of 304.7 ms (SD = 83.7). A Friedman test revealed a statistically significant difference over time with a small effect size, Q = 6.3, p = .04, W2 = .16. Post hoc analysis indicated that the only significant difference was between Time 1 and Time 3 (p = .05).

**Table 3.**

***Average reaction time of non-native speakers over time***

| Median (*SD*) | | |
|---|---|---|
| Time 1 | Time 2 | Time 3 |
| 1423.4 (1464.4) | 692.4 (497.5) | 792.6 (961.4) |

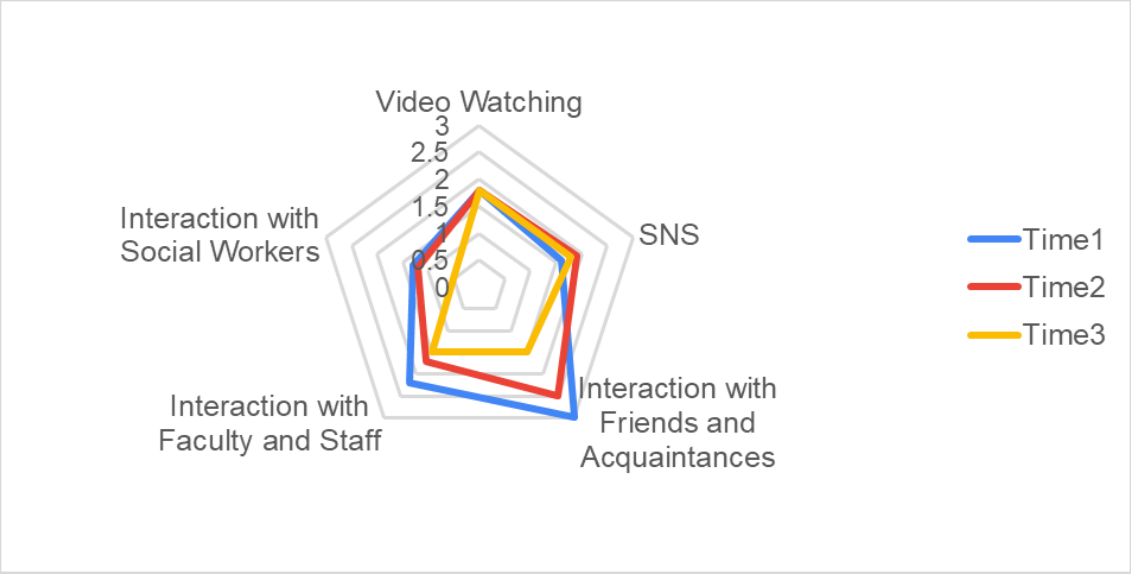
There was a moderate correlation between the change in scores and the change in reaction time for NNS participants from Time 1 to Time 3, r = .47, p = .04.

### 3.2. Language Environment Changes

Figure 1 shows the results of the LCP questionnaire. The average duration of NNSs' exposure to Japanese gradually decreased over time, from Time 1 (9.9 points) to Time 2 (9.0 points), and further to Time 3 (7.1 points). The amount of time spent on all measured activities—watching videos, interacting on social media, engaging with faculty and staff, communicating with friends and acquaintances, and speaking with service workers—declined across the study period. In particular, notable decreases were observed in time spent with faculty and staff, friends and acquaintances, and service workers.

**Figure 1**

***Change from Time 1 to Time 3 divided by target language contact time***




The most frequently used languages other than participants' native languages were English (10 responses) at Time 1, Japanese (8 responses) at Time 2, and both Japanese and English (8 responses) at Time 3.

The number of NNSs who reported having close Japanese friends slightly declined over the course of the study, from eight at Time 1 to seven at Time 2 and six at Time 3. Participants' living environments remained consistent throughout the study: seven students lived in private rooms in dormitories, six lived alone, and four lived in other arrangements. These results suggest that NNSs had limited exposure to and interaction with the Japanese language outside the university setting, regardless of their intentions or preferences.

### 3.3. Interview Results

As mentioned above, many learners reported an increase in video viewing in their private rooms and more frequent interaction via social networking sites over the course of the study period. This shift was attributed to a significant increase in time spent on research and academic study, which reduced opportunities for leisure activities with Japanese students. Additionally, activity restrictions due to the spread of COVID-19 from spring 2020 (Time 2) further limited social interaction. However, some learners reported participation in job-hunting activities and intercultural co-learning classes conducted in Japanese. These participants described engaging in extended discussions lasting 20 to 30 minutes, as opposed to brief conversational exchanges. They also indicated that such experiences contributed positively to their pragmatic development.

Thus, although the overall trend showed a reduction in social contact time outside Japanese language classes, greater individual variation was observed in both the frequency and substance of language use. The most notable improvement was seen in Participant 1, a native Italian speaker, whose PLT results demonstrated a marked increase in accuracy and a reduction in reaction time. Like other NNSs, his overall exposure to Japanese gradually declined during the study period. Nevertheless,

in his post-test interview, he reported engaging in frequent Japanese-language discussions through academic courses and intercultural co-learning sessions. He commented, “There were a lot of conversations, like this experiment, by teachers and classmates in class. For example, I often heard conversations involving ‘kana’ from Japanese people. That word ‘kana’ has many meanings, doesn’t it? It’s been difficult to understand correctly, but now I understand a little.” Despite limited opportunities for daily interaction due to COVID-19, Participant 1’s intensive and meaningful engagement with native speakers appeared to enhance his pragmatic awareness and comprehension ability.

Conversely, a participant who did not demonstrate improvement, Participant 2, had a markedly different experience. Her PLT results showed an increase in accuracy and a decrease in reaction time between Time 1 and Time 2; however, no such changes were observed from Time 2 to Time 3. Notably, her L2 contact time also decreased during this period. Prior to coming to Japan, she had been exposed to substantial Japanese language input and interaction through exchanges with Japanese students and regular viewing of Japanese television programmes. Up to Time 2, she actively engaged in social activities with native Japanese students. However, following Time 2 (coinciding with the COVID-19 pandemic), her interactions were limited to simple information exchanges with both native and non-native speakers of Japanese. She also spent most of her time alone in her room, consuming video content in her native language and in English.

Thus, although both Participant 1 and Participant 2 experienced a gradual reduction in language contact with Japanese speakers, their activities between Time 2 and Time 3 differed significantly. This contrast suggests that pragmatic development is not solely associated with the duration of study or the sheer quantity of L2 input and interaction. Rather, it appears to be more closely linked to the density and quality of social interaction. This supports previous arguments that the frequency and quality of input are equally as important as quantity (e.g., Ellis, 1985). Therefore, the findings indicate a strong relationship between the development of pragmatic comprehension skills and processes of language socialisation (e.g., Schieffelin & Ochs, 1984).

## 4. DISCUSSION

Over time, the non-native speakers (NNS) demonstrated more accurate comprehension and shorter reaction times. However, as shown in Table 3, the standard deviation was relatively large. Therefore, the participants were divided into two groups—higher and lower—based on the median score of 12 at Time 1, in order to analyse developmental patterns more clearly. Although the NNS group showed a statistically significant increase in accuracy from Time 1 to Time 3, the results in Table 4 suggest that this improvement was primarily driven by gains among the lower-level NNS, whereas the higher-level NNS did not exhibit noticeable progress.

**Table 4.**

***Average score of NNS over time and NS***

| | Median (*SD*) | | | |
|---|---|---|---|---|
| | NNS | | | NS |
| | Time 1 | Time 2 | Time 3 | |
| NNS (*N*=20) | 11.9 (2.32) | 12.7 (2.03) | 12.7 (1.97) | 14.8 (0.40) |
| Higher (*N*=10) | 14.1 (2.27) | 14.2 (2.01) | 14.0 (1.33) | - |
| Lower (*N*=10) | 9.7 (2.29) | 11.2 (1.89) | 11.4 (2.06) | - |

However, with regard to reaction time, both the higher- and lower-level groups appeared to follow a similar trend over time, as illustrated by the results in Table 5.

**Table 5.**

***Average reaction time of NNS over time and native speakers NS***

| | Median (*SD*) | | | |
|---|---|---|---|---|
| | NNS | | | NS |
| | Time 1 | Time 2 | Time 3 | |
| NNS (*N*=20) | 1118.3 (1053.0) | 545.3 (279.2) | 588.9 (328. 4) | 269.1 (96.4) |
| Higher (*N*=10) | 1105.1 (938.1) | 550.5 (249.9) | 615.4 (376.1) | - |
| Lower (*N*=10) | 1131.5 (1181.2) | 540.0 (292.1) | 562.3 (225.2) | - |

Furthermore, a much stronger correlation was observed between reaction time and accuracy in the higher-level NNS group ($r = .91$, $p < .001$) than in the lower-level group ($r = .37$, $p = .30$). These results suggest an acquisition order in which accuracy improves first, followed by processing speed. The higher-level group showed an average decrease in reaction time but no significant change in accuracy, alongside a strong correlation between the two variables. This indicates that learners who had already attained higher accuracy levels were more likely to improve their processing speed. In contrast, the lower-level group did not show a similar correlation, likely because it was more heterogeneous; while the group demonstrated average improvements in both accuracy and speed, the lack of correlation

suggests that individuals improving in accuracy were not necessarily improving their speed simultaneously, and vice versa.

Overall, the data indicate that the non-native speakers (NNS) gradually approached native speaker (NS) levels through more accurate comprehension and faster responses. This trend was especially evident among learners who initially scored lower. These findings broadly support Taguchi's (2012) conclusions. Regardless of learners' first language or length of stay in Japan, an increased duration of exposure to the L2 environment generally corresponds with more accurate and quicker pragmatic decision-making. However, learners who initially struggle with comprehension appear to focus on understanding meaning first, while those with some degree of competence tend to improve their processing speed.

Interview data revealed that although comprehension skills generally improved over the study period, substantial individual differences remained. Shively (2013), who investigated humour comprehension among L2 Spanish learners, framed acquisition within the context of Language Socialization (Schieffelin & Ochs, 1984). Our findings support Shively's (2013) perspective and suggest that intensive social contact with proficient language users is a critical factor facilitating the development of comprehension competence for indirect acts of disagreement. While previous applications of Language Socialization have focused primarily on production skills such as leave-taking expressions (DuFon, 2010) and opinion expression (Taguchi, 2014), this study highlights its importance for improving comprehension as well.

Based on these results, educators aiming to enhance their students' pragmatic competence should encourage not only increased L2 input but also genuine social interaction. Additionally, teachers should be mindful that improvements in pragmatic processing speed tend to follow gains in accuracy, warranting appropriate pacing in classroom instruction. Once learners reach a certain accuracy threshold (approximately 90%, according to this study), fluency-building activities could be particularly effective for further advancing pragmatic competence.

## 5. CONCLUSION

This study examined the relationship between the acquisition of comprehension skills for indirect speech acts among Japanese language learners and changes in their language environment, based on longitudinal data. The results revealed two major findings: (1) more accurate and rapid processing of indirect speech intentions is associated with a longer stay in the target language environment (i.e., Japan), and (2) learners appear to develop accuracy in comprehending indirect speech intentions prior to subsequently improving processing speed. Additionally, the findings suggest that high-intensity social contact—both in terms of quality and frequency—plays a crucial role in the acquisition of pragmatic comprehension skills.

However, since this study focused solely on the act of disagreement and involved a limited number of questions, it is difficult to generalise the findings. Furthermore, both changes in scores and reaction times varied according to the type of hedging expression at the end of the utterance: "kana" (doubt), "kana" (mitigation), and negative questions showed the greatest convergence with native speaker scores and reaction times. Nevertheless, with only five items per category, the sample size was insufficient for robust comparative analysis. It is also possible that general improvements in listening comprehension influenced L2 learners' understanding of indirect speech acts.

Future research should consider employing listening comprehension tests that cover other speech acts and include a greater number of items, such as refusals, in order to more comprehensively elucidate the process of pragmatic development in comprehension ability.

## NOTES

1. The Simple Performance-Oriented Test (SPOT) is part of the Tsukuba Test Battery of Japanese (TTBJ). It is an online assessment that measures language proficiency indirectly, objectively, and within a short time frame. SPOT scores have been found to correlate highly with the ACTFL Oral Proficiency Interview (OPI) levels, primarily ranging from elementary to intermediate proficiency (Iwasaki, 2002).

2. The Japanese Language Proficiency Test (JLPT) comprises a language knowledge test (vocabulary, grammar, reading) and a listening comprehension test, with levels ranging from N1 to N5. The JLPT N2 level roughly corresponds to the ACTFL Intermediate Mid through Superior levels on the Oral Proficiency Interview scale (Yokoyama et al., 2004).

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