

Effects of L1 and L2 Communication Apprehension on Speaking Skills of Japanese University Students

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Abstract

This study explores the effect of communication apprehension in both L1 and L2 on proficiency in word stress of Japanese university students. Two structured, closed-ended questionnaires, the Personal Report of Communication Apprehension (PRCA) and the Foreign Language Classroom Anxiety Scale (FLCAS) were utilized along with speaking scores. A target word in an exclamatory sentence was used to examine word stress that affects intelligibility in spoken English. Acoustic correlates of the differences between stressed and unstressed syllables were investigated with four acoustic parameters: fundamental frequency (f_0) range, f_0 slope, duration, and intensity. Results showed that of the four parameters, word stress represented by f_0 range and f_0 slope showed a significant negative correlation with L1 communication apprehension. In addition, speaking scores were related to L1 communication apprehension and word stress proficiency represented by f_0 range. These findings also suggest the effect of communication apprehension on English prosody as demonstrated by f_0 . In addition, speaking scores were related to L1 communication apprehension and proficiency in word stress represented by f_0 range. These findings suggest the effect of communication apprehension on English speaking skills.

Keywords: communication apprehension, L2 anxiety, prosody, acoustic analyses

1. Introduction

1.1 Background

The idea of communicative English education has gained strength in Japanese universities, with English classes now entrusted with the goal of becoming a place of communication. In recent years, however, some research has cast doubt on this communicative teaching style, and teaching English as a tool of communication has not always been successful in Japan (Iwai, 2022). There is a substantial body of work that describes Japanese learners' reactions to communicative English classes (Araki, 2014; Doyon, 2000; Norman, 2011; Miller, 1995). Miller (1995) reported that Japanese students want to become more active class participants, but they feel inhibited about speaking up in class. Araki (2014) demonstrated that affective factors were highly related to communication skills in English. Japanese university students indicated a higher level of communication apprehension than Asian peers (Klopf, 1984; McCroskey, Gudykunst, & Nishida, 1985). McCroskey, Gudykunst, and Nishida (1985) noted extremely high communication apprehension in both L1 and L2 of Japanese university students. Nakamura et al. (2014) reported students with higher communication apprehension showed higher second/foreign language (hereafter L2) anxiety than Asian peers.

1.2 L1 and L2 Communication Apprehension

Communication apprehension is defined as "an individual's level of fear or anxiety associated with either real or anticipated communication with another person or persons" (McCroskey, 1984, p.13). McCroskey (1984) described four different types of communication apprehension: trait-like, context-based, audience-based, and situational. The Personal Report of Communication Apprehension (PRCA) was developed by McCroskey (1970) to measure trait-like communication apprehension, which was defined as "a relatively enduring, personality-type orientation toward a given mode of communication across a wide variety of contexts" (McCroskey, 1984, p.16). The PRCA uses a 5-point Likert scale and includes 24 questions, categorized into four different situations: dyads, group discussion, meetings, and public speaking. Possible scores range from 24 to 120. Any score above 65

indicates that a person is more generally apprehensive about communication than the average person. PRCA scores can predict a person's trait-like CA only if their score is extremely high or low. Approximately 20% of the general population falls in each extreme category. People in the normal range of CA tend to respond differently according to the situation (Richmond et al., 1992).

There is a large body of research on L2 anxiety reporting the negative effect of anxiety on L2 learning (Yashima, 2014). L2 anxiety is a situation-specific apprehension generated in L2 learners and it has been shown to be more associated with L2 achievement than with L2 motivation (Al-Shboul et al., 2013; Gardner & MacIntyre, 1993). It has also been reported that L2 speaking is more anxiety-provoking than L1 speaking (Horwitz et al, 1986; MacIntyre & Gardner, 1991). The Foreign Language Classroom Anxiety Scale (FLCAS) developed by Horwitz, Horwitz, and Cope (1986) is often used to measure the amount of anxiety that students feel in the L2 learning classroom. This scale has 33 items scored on a 5-point Likert scale. The FLCAS consists of questions reflecting communication apprehension, test anxiety, and fear of negative evaluation.

Personality is regarded as one of the internal learner factors that affect one's mental state along with motivation and aptitude (Araki, 2014). A considerable amount of research was conducted on the influence of personality traits and affective factors on L2 speaking skills with increased attention to the individual differences of L2 learners (Araki, 2014; Wang, 2013). Araki (2014) conducted research on how personality traits and affective factors influence L2 communication skills of Japanese EFL learners. She examined the relationship between self-reported Common European Framework of Reference for Languages (CEFR) evaluations and personality traits and affective factors including self-efficacy, anxiety, extroversion-introversion, inhibition, empathy, tolerance, and risk-taking. Her results indicated the highest positive correlation between self-efficacy and CEFR scores and highest negative correlation between CEFR scores and anxiety. Wang (2013) conducted cross-cultural studies to explore L2 anxiety among Japanese and Chinese EFL learners using the FLCAS, and identified the highest levels of L2 anxiety among Japanese learners of English and lowest levels of L2 anxiety among Chinese learners of English. Wang (2013) also investigated the effects of affective factors on L2 anxiety, addressing interpersonal anxiety as well as self-efficacy and self-esteem. The results demonstrated that in both groups, interpersonal anxiety was highly correlated with L2 anxiety. This study implied that factors affected by a face-to-face situation are associated with L2 speaking anxiety.

1.3 Prosodic Features and Affective Factors

Prosodic features contribute to enhancing the intelligibility and comprehensibility of utterances in communication (Munro & Derwing, 1999; Yamane, 2019; Yamato, 2012). Problems with prosody in Japanese students include insufficient word stress, incorrect pitch counter, and incorrect placement of intonation (Yamato, 2016). Yamane (2015) conducted research to explore which aspects of prosodic features affect the intelligibility of English and reported that misplaced word accent severely affected intelligibility. More recently, Suzukida and Saito (2023) demonstrated the importance of word stress in discriminating between different levels of L2 pronunciation proficiency.

Previous studies have indicated the influence of L2 anxiety on pronunciation including both segmental and supra-segmental features (Baran-Łucarz, 2011; Szyzka, 2011). Baran-Łucarz (2011) conducted research to explore the relationship between L2 anxiety and the actual pronunciation level of students, along with their self-reported evaluation of pronunciation. She used a pronunciation test composed of a perception test and production test. The production test included both segmental and supra-segmental features. Her results showed significant negative correlations between both L2 anxiety and proficiency in word stress and the perceived levels of pronunciation. However, L2 anxiety revealed no significant correlation with production of segmental features. Results also showed that participants with low anxiety perceived their intonation and stress as correct while high-anxiety participants did not perceive their intonation and stress as appropriate (Baran-Łucarz, 2011). Szyzka (2011) also reported the relationship between L2 anxiety and pronunciation based on a self-evaluation. Aspects of pronunciation include vowels, consonants, word pronunciation, word stress, weak forms, rhythm, linking, assimilation, and intonation. According to her results, word stress and linking showed higher negative correlations with L2 anxiety compared to vowels and consonants. These results imply that L2 anxiety has greater influence on the prosodic aspects of language than segmental features.

In the field of emotional psychology, a large number of studies on the relationship between emotional states and their acoustic correlates have been examined as vocal expressions of emotion (Juslin and Laukka, 2001; Laukka et al., 2008; Mori et al., 2014). Mori et al. (2014) reported that prosodic features such as pitch, intensity and duration convey emotion more than segmental features such as vowels and consonants. Among those prosodic features, pitch is manifested by fundamental frequency: the basic rate at which the vocal folds vibrate. Generally,

anxiety/fear tenses vocal folds and increases fundamental frequency (Kondo and Yang, 1995). Laukka et al. (2008) examined acoustic correlates of communication apprehension for people with social phobia regarding several acoustic parameters related to pitch, loudness, voice quality, and temporal aspects of speech, and identified that the values of mean fundamental frequency (hereafter f_0) and maximum f_0 were higher in an anxiety-provoking situation.

There have been few acoustic studies on L2 anxiety and most of the research on L2 anxiety is based on questionnaires and self-reports. An earlier study conducted by one of the authors (Nakamura, 2022) aimed to objectively examine the effect of personality traits and affective factors on prosody utilizing acoustic measures. She reported that L2 communication apprehension was related to proficiency in sentence stress: Students with higher L2 communication apprehension showed low proficiency in sentence stress. The purpose of the current study is to explore the effect of L1 and L2 communication apprehension on prosodic features, focusing on acoustic correlates of English word stress. Developmental studies have used acoustic correlates to examine when native infants begin to differentiate stressed and unstressed syllables in their two-syllable production (Pollock et al., 1993; Kehoe et al., 1995). Kehoe et al. (1995) examined stress placement of monosyllables and disyllables with f_0 measures, duration measures, and amplitude measures in children. Each measurement represented the difference in mean f_0 , syllable duration, and amplitude between the stressed and unstressed syllables, respectively. The results indicated that children between the ages of 18 and 30 months can mark differences in stress by f_0 , duration, and intensity. Considering that major acoustic parameters of word stress include f_0 , intensity, and duration, the current study addresses two research questions: Does L1 communication apprehension of Japanese students have an effect on L2 communication apprehension? Do L1 communication apprehension and L2 communication apprehension affect their proficiency in word stress and speaking scores? The first research question examined the effect of L1 communication apprehension on L2 communication apprehension based on the results of the two closed-ended questionnaires. The second research question explored the possible effect of L1 and L2 communication apprehension on proficiency in word stress and speaking scores by analyzing acoustic measurements: f_0 , intensity, and duration utilized in the previous studies (Mori, et al., 2014).

2. Method

2.1 Participants

Thirty first-year Japanese university students (14 males, 16 females) taking a required English course participated in this study. No students had stayed in an English-speaking country longer than a month. All the participants signed an agreement regarding their personal information and received payment in return for their participation.

2.2 Materials

The participants were asked to submit their speaking scores from the Global Test of English Communication (GTEC). They took this test online at home as a placement test. The speaking component of GTEC evaluates intelligibility and comprehensibility as well as pronunciation and intonation, fluency, grammar, and vocabulary using artificial intelligence.

The utterances by each student were recorded and analyzed. The following exclamatory sentence was used to examine word stress. The target word was “singer.”

What a great singer you are!

Acoustic correlates of the differences between stressed and unstressed syllables of “singer” were investigated with four acoustic measurements: f_0 range, f_0 slope, intensity, and duration.

- (1) f_0 range differences between stressed and unstressed syllables of “singer” (f_0 range)
- (2) Ratio of f_0 range to f_0 distance of “singer”: f_0 range / f_0 distance (f_0 slope)
- (3) Intensity ratio between stressed and unstressed syllables of “singer” (intensity)
- (4) Duration ratio between stressed and unstressed syllables of “singer” (duration)

According to Mori et al. (2014), the main acoustic characteristics influenced by affective factors include f_0 , intensity, and duration/speech rate. Regarding anxiety, Sobin & Alpert (1999) reported higher mean f_0 , higher volume, and faster speech rate as acoustic correlates of fear. The four measurements were selected considering that the current study examined the possible effect of communication apprehension on word stress.

2.3 Procedures

Each participant was seated in a quiet room and asked to complete two structured, closed-ended questionnaires: the Personal Report of Communication Apprehension (PRCA, Japanese version: Kondo & Yang, 2012), and eight items reflecting on physical symptom of anxiety, nervousness, and lack of confidence concerning communication apprehension from the Foreign Language Classroom Anxiety Scale (FLCAS, Japanese version: Wang, 2013). Voice recordings were made using a condenser microphone ATT9904 and a Roland R-07 digital recorder. The audio recordings of each sentence obtained for each participant were analyzed acoustically using Praat software, version: 6.1.08 (Boersma & Weenink, 2021). Praat automatically computed f_0 values (Hz), amplitude (dB) and duration (ms). Fundamental frequency measurements were subsequently transformed to semitones (st) considering the differences in pitch between men and women.

3. Results

The results are reported in two sections. The first section provides results for the questionnaires. The second section provides results for acoustic parameters.

3.1 Results for the First Research Question

Table 1 shows the possible range of scales for each survey instrument and GTEC speaking test and the average scores, standard deviation (SD), and the observed range for the Personal Report of Communication Apprehension (PRCA), the Foreign Language Classroom Anxiety Scale (FLCAS), and GTEC (GTEC speaking scores).

Table 1. Average Scores, score ranges for PRCA, FLCAS, and GTEC (N=30)

	PRCA	FLCAS	GTEC
Possible range	24-120	8-40	0-250
Average	76.03	26.60	106.60
(SD)	(16.9)	(7.13)	(13.20)
Observed range	31-105	9-39	91-136

3.1.1 L1 Communication Apprehension

The possible range of scores for the PRCA is from 24 to 120. The average score was 76.03 ($SD = 16.9$). The highest score was 105 and the lowest score was 31. The results showed a great range of scores among the 30 participants. The percentage of participants who had higher scores than the average score was 56.7%. According to Richmond et al. (1992), those who score over 65 are likely to be anxious. Of the participants, 76.7% were shown to have high L1 communication apprehension. This percentage of anxious participants is even higher than that of Japanese students (35.9%) shown in the previous study by Klopff (1984) that used the PRCA to compare L1 communication apprehension among university students from different countries.

3.1.2 L2 Communication Apprehension

The possible range of scores for the FLCAS is from 8 to 40. The average score was 26.6 ($SD = 7.13$). The highest score was 39 and the lowest score was 8. These results also showed a great range of scores among the 30 participants. Most notably, the highest score of 39 is much higher than the average score (26.6). The percentage of participants who had scores higher than the average of 26.6 was 63.3%.

3.2 Results for the Second Research Question

Table 2 shows correlations among four measurements: f_0 range, f_0 slope, intensity and duration. Table 3 indicates major correlations among the PRCA (L1 communication apprehension), the FLCAS (L2 communication apprehension), GTEC (GTEC speaking scores), and four acoustic measurements (N = 30).

Table 2. Pearson’s Correlation Coefficients among L1 and L2 Communication Apprehension, Four Acoustic Measurements, and GTEC (N = 30)

	1	2	3	4	5	6	7
1.PRCA	—						
2.FLCAS	-.64***	—					
3.GTEC	-.34	-.26	—				
4. f_o range	-.36*	-.09	.51**	—			
5. f_o slope	-.44*	-.14	.26	.41*	—		
6.Intensity	.07	.22	.14	-.18	-.04	—	
7.Duration	.16	-.02	.26	.18	-.27	.19	—

* $p < .05$, ** $p < .01$, *** $p < .001$.

Table 3. Major Correlations among L1 and L2 Communication Apprehension, Four Acoustic Measurements, and GTEC (N = 30)

Variable pair	r	p value
PRCA FLCAS	-.641	.000***
PRCA f_o slope	-.437	.016*
PRCA f_o range	-.364	.048*
GTEC f_o range	-.513	.005**

* $p < .05$, ** $p < .01$, *** $p < .001$.

The highest positive correlation was found between L1 communication apprehension and L2 communication apprehension ($r = .641, p < .001$). Results also showed that L1 communication apprehension was negatively correlated with f_o slope ($r = -.437, p = .016$) and f_o range ($r = -.364, p = .048$). GTEC speaking scores were positively correlated with f_o range ($r = .513, p = .005$). In order to examine the differences according to the level of communication apprehension, participants were divided into two groups: “High Group” consists of participants whose PRCA scores were more than the median score and “Low Group” consists of participants whose PRCA scores were less than the median score. Table 4 indicates the mean of f_o slope, f_o range, standard deviations, and the results for Wilcoxon signed rank test for the two groups.

Table 4. Means of f_o slope, f_o range, Standard Deviation, and Wilcoxon Signed Rank Test Analysis for the High and Low Levels of Communication Apprehension (N=30)

Variable	High Group (n = 15)	Low Group (n = 15)			High Group (n = 15)	Low Group (n = 15)		
	f_o slope (st)	f_o slope (st)	p	r	f_o range (st)	f_o range (st)	p	r
	Mean (SD)	Mean (SD)			Mean (SD)	Mean (SD)		
PRCA	-55.87 (37.55)	-27.79 (13.20)	.035	.384	.77 (.49)	1.13 (.90)	.128	.283

The separate data for “High Group” and “Low Group” for communication apprehension showed that the mean f_o slope for “High Group” was significantly lower than the mean score for the “Low Group” The mean of f_o range was not significantly lower for “High Group” than the mean for “Low Group,” though the results indicated lower mean values of f_o range for “High Group” than “Low Group” and also showed a medium effect size.

4. Discussion

The main objectives of this study were to investigate the relationship between L1 communication apprehension and L2 communication apprehension and the effects of L1 communication apprehension and L2 communication apprehension on proficiency in English word stress. Regarding the first research question, the results indicated that L1 communication apprehension was associated with L2 communication apprehension and this result supported previous studies (Klopf, 1984; McCroskey, Gudykunst, & Nishida, 1985; Nakamura et al., 2013) that reported high levels of L1 communication apprehension among Japanese students. In the current study, 76.7% of

the participants were shown to be highly apprehensive. Kubota (2013) reported a survey result that 212 out of 300 Japanese students (71%) evaluated their communicative competence as low in her lecture on communication studies. She assumed that Japanese are excessively aware of their poor skills in communication and this negative evaluation of their own skills impedes the enhancement of communication skills. According to Richmond et al. (1992), people with low self-esteem tend to have higher levels of communication apprehension; people with high self-esteem tend to have lower levels of communication apprehension in their first language. In the field of second language acquisition, self-efficacy is shown to play an important role in improving L2 speaking skills (Tanaka & Haruhara, 2006; Araki, 2014). Considering the negative correlation between anxiety and self-evaluated L2 communication skills reported in Araki (2014), those who have higher L1 communication apprehension with less confidence in communication skills might feel higher L2 communication apprehension when they are required to speak English.

The findings for the second research question demonstrated that L1 communication apprehension was associated with word stress represented by f_0 slope and f_0 range. Wilcoxon signed rank test analyses showed that participants with higher level of L1 communication apprehension showed a smaller f_0 difference between the stressed and unstressed syllables. In the present study, the result did not show a relationship between L2 communication apprehension and any acoustic measures. The results also indicated that L1 communication apprehension, not L2 communication apprehension was associated with prosodic features, which is different from an earlier study (Nakamura, 2022). Considering a relatively high correlation between L1 and L2 communication apprehension, there might be some effect of L2 communication apprehension on proficiency in word stress. This is something to be investigated in further studies. Neither L1 nor L2 communication apprehension were correlated with intensity or duration. This implies that affective factors have a greater effect on f_0 than intensity and duration. The findings for the second research question included the relationship between GTEC speaking scores and word stress represented by f_0 range. This result suggests that participants with higher speaking scores spoke with a larger f_0 range than those with lower speaking scores. As noted before, GTEC speaking scores evaluate the intelligibility of spoken utterances of test takers. It should be mentioned that proficiency in word stress might contribute to an increase in the speaking scores. It seems natural that L1 communication apprehension would affect speaking scores as proficiency in word stress is a part of speaking skills. Additionally, the GTEC speaking scores showed a more positive correlation with L1 communication apprehension than L2 communication apprehension. It is worth mentioning that L1 communication apprehension as a personality trait is more closely associated with less proficiency in word stress than L2 communication apprehension.

5. Conclusion

The present study demonstrated that L1 communication apprehension was closely related to L2 communication apprehension and L1 communication apprehension was related to proficiency in word stress and proficiency in speaking English. The results also provided further evidence that prosodic features contribute to the enhancement of intelligibility and comprehensibility of utterances in communication (Derwing & Rossiter, 2002; Suzukida & Saito, 2023; Yamane, 2019; Yamato, 2012). In the present study, it was shown that those who had higher speaking scores on GTEC had higher prosodic proficiency and this implies that proficiency in prosody results in improved speaking test scores.

The limitations of this study include the small sample size and the lack of differentiation in the GTEC speaking scores of the participants. A clearer measurement of speaking proficiency might also reveal the effect of communication apprehension on proficiency in prosodic features. The reading material consisted of only one sentence. It would be desirable to analyze “singer” in a longer text or a spontaneous speech.

Future studies should explore the influence of increased proficiency in prosody on reducing L2 communication apprehension. Prosody can increase intelligibility and comprehensibility of English production. Araki (2014) reported that 80% of the Japanese participants in her study felt happy when they made themselves understood in English. If learners can improve their proficiency in prosody, their English will be more comprehensible and it may increase the joy of speaking English and reduce anxiety when they communicate with their teachers and peers in the EFL classroom.

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References

- Al-Shboul, M. M., Ahmad, I. S., Nordin, M. S., & Rahman, Z. (2013). A Foreign Language Anxiety and Achievement: Systematic Review. *International Journal of English Linguistics*, 3(2), 32-45. <https://doi.org/10.5539/ijel.v3n2p32>
- Araki, F. (2014). *Gaikokugo komyunikeishon ni joudou ga oyobosu eikyo: jikohyouka ni motozuku bunseki kara* [The effect of affective factors on foreign language communication: based on the analysis from self-report]. Keisuisha.
- Baran-Lucarz, M. (2011). The relationship between language anxiety and the actual and perceived levels of foreign language pronunciation. *Studies in Second Language Learning and Teaching*, 1(4), 491-514. <https://doi.org/10.14746/ssl.t.2011.1.4.3>
- Boersma, P., & Weenink, D. (2021). *Praat: doing phonetics by computer* [Computer program]. Version 6.2.03, retrieved 3 December 2021 from <http://www.sllt.amu.edu.pl>
- Derwing, T.M., & Rossiter, M.J. (2002). ESL learner's perceptions of their pronunciation needs and strategies. *System*, 30(2), 155-166. [https://doi.org/10.1016/S0346-251X\(02\)00012-X](https://doi.org/10.1016/S0346-251X(02)00012-X)
- Doyon, P. (2000). Shyness in the EFL class: why it is a problem, what it is, what causes it, and what to do about it. *The Language Teacher*, 24(1), 11-16. Retrieved 10 September 2021 from <http://langue.hyper.chubu.ac.jp/jalt/pub/tlt/index/html>.
- Gardner, R., & MacIntyre, P. (1993). On the measurements of affective variables in second language learning. *Language Learning*, 43(2), 157-194. <https://doi.org/10.1111/j.1467-1770.1992.tb00714.x>
- Horwitz, E.K., Horwitz, M.B., & Cope, J. (1986). Foreign language classroom anxiety. *The Modern Language Journal*, 70(2), 125-132. <https://doi.org/10.2307/327317>
- Iwai, C. (2022, August 25-August 27). Let's think about the future perspective for English education in Japan [Special Invited Lecture]. *The 61st JACET International Convention* (online).
- Juslin, P. N., & Laukka, P. (2003). Communication of emotions in vocal expression and music performance: Different channels, same code? *Psychological Bulletin*, 129, 770-814. <https://doi.org/10.1037/0033-2909.129.5.770>
- Kahoe, M., & Buder, E. (1995). Acoustic correlates of stress in young children's speech. *Journal of Speech and Hearing Research*, 38, 338-340. <https://doi.org/10.1044/jshr.3802.338>
- Klopf, D.W. (1984). Cross-cultural apprehension research: A summary of pacific basin studies. In J.A. Daly & J.C. McCroskey (Eds.), *Avoiding communication: Shyness, reticence and communication* (pp.157-169). Sage Publications.
- Kondo, D.S., & Yang, Y.L. (1995). *Komyunikeishon fuan no keisei to chiryo*. [Communication apprehension and implications for treatment]. Nakanishiya.
- Kubota, M. (2012). *Komyunikeishon to sain* [Communication and sign]. In T. Yashima, T. & M. Kubota, M. (Eds.), *Ibunka komyunikeishon ron* [Studies on cross-cultural communication] (pp.19-49). Syohakusha.
- Laukka, P., Linnman, C., Afs, F., Pissioti, A., Frans, R., & Faria, V., Michelgard, A., Appel L., Fredrikson, M., & Furmark, T. (2008). In a Nervous Voice: Acoustic Analysis and Perception of Anxiety in Social Phobics' Speech. *Journal of Nonverbal Behavior*, 32, 195-214. <https://doi.org/10.1007/s10919-008-0055-9>
- MacIntyre, P., & Gardner, R. (1991). Language anxiety: Its relation to other anxieties and to processing in native and second languages. *Language Learning*, 41(4), 513-534. <https://doi.org/10.1111/j.1467-1770.1991.tb00691.x>
- McCroskey, J. C. (1970). Measures of communication-bound anxiety. *Speech Monographs*, 37, 269-277. <https://doi.org/10.1080/03637757009375677>
- McCroskey, J. C. (1984). The communication apprehension perspective. In J.A. Daly & J.C. McCroskey (Eds.), *Avoiding communication: Shyness, reticence, and communication apprehension* (pp.13-38). Sage Publications.
- McCroskey, J. C., Gudykunst, W. B., & Nishida, T. (1985). Communication apprehension among Japanese students in native and second language. *Communication Research Reports*, 2, 11-15.
- Miller, T. (1995). Japanese learners' reaction to communicative English lessons. *JALT Journal*, 17(1), 31-52.

- Mori, H., Maekawa, K., & Kasuya, H. (2014). *Onsei wa naniwo tsutaeteiruka* [What does speech convey?]. CORONA Publishing.
- Munro, M.J., & Derwing, T. M. (1995). Foreign accent, comprehensibility, and intelligibility in the speech of second language learners. *Language Learning*, 45(1), 285-310. <https://doi.org/10.1111/j.1467-1770.1995.tb00963.x>
- Nakamura, H. (2016). Bogo de no komyunikeishon fuan ga eigo gakushu ni oyobosu eikyo ni tsuite [Effects of L1 communication apprehension on L2 learning]. *Journal of the Japan Society for Speech Sciences*, 17, 85-94. <http://id.ndl.go.jp/bib/000006161807>
- Nakamura, H., Kuo, F., Wu, K., Lin, S., Lee, D., Ka, H., & Lin, E. (2013, October 31-November 3). Communication apprehension and L2 learning anxiety in Japanese, Korean, and Taiwanese university students [Poster presentation]. *9th Asian Pacific Conference on Speech, Language and Hearing*, Taichung, Taiwan.
- Norman, J. (2012). Overcoming shyness in the English classroom. *Shokei Educational Institution Bulletin*, 4, 1-18.
- Pollock, K. E., Brammer, D., & Hagerman, C. (1993). An acoustic analysis of young children's productions of word stress. *Journal of Phonetics*, 21, 183-203. [https://doi.org/10.1016/S0095-4470\(19\)31332-4](https://doi.org/10.1016/S0095-4470(19)31332-4)
- Richmond, V.P., Wrench, J.S., & McCroskey, J.C. (2013). *Communication apprehension, avoidance and effectiveness* (6th ed. pp.31-49). Pearson Colleague Division.
- Sobin, C., & Alpert, M. (1999). Emotion in speech: The acoustic attributes of fear, anger, sadness, and joy. *Journal of Psycholinguistic Research*, 28(4), 347-365. <https://doi.org/10.1023/A:1023237014909>
- Suzukida, Y., & Saito, K. (in press). What is second language pronunciation proficiency? An empirical study. *System*, 106. <https://doi.org/10.1016/j.system.2022.102754>
- Szyszk, M. (2011). Foreign language anxiety and self-perceived English pronunciation competence. *Studies in Second Language Learning and Teaching*, 1(2), 283-300. <https://doi.org/10.14746/ssllt.2011.1.2.7>
- Tanaka, S., & Haruhara, K. (2006). Seikaku Joiyouin [Personality traits and affective factors]. In S. Hayashi et al. (Eds.), *Daini Gengo Gakusyu to Kobetsusei* [Individual factors in L2 learning] (pp.120-133). Syunpusha.
- Yashima, T. (2004). *Gaikokugo komyunikeishon no joi to doki* [Motivation and affect in foreign language communication]. Kansai University Press.
- Yamane, S. (2015) Notes on the intelligibility of Japanese EFL learners' pronunciation. *Kansai Univ. Journal of Foreign Language Studies*, 13, 129-141.
- Yamane, S. (2019). *Komyunikeishon no tame no eigo onseigaku kenkyu* [Studies in English phonetics for communication]. Kansai University Press.
- Yamato, K. (2012). L2 spiichi kenkyu ni okeru hatsuon no meiryosei no toriatsukai: Meiryo na hyotei no tameni [Intelligibility in pronunciation in the studies of L2 speech: for more accurate evaluation]. *Reports of 2011 Studies in Japan Association for Language Education and Technology, Kansai Chapter, Methodology Special Interest Group (SIG)*, 41-49.
- Yamato, K. (2016). Eigo purosodi shido ni okeru mittsu nogensoku [Three principles in teaching prosody and their theoretical background]. In Y. Yanase, & T. Nishihara (Eds.), *Kotoba de hirogaru chisei to kansei no sekai* [Expanding intellectuality and sensibility through languages] (pp.219-231). Keisuisha.
- Young, D. J. (1991). Creating a low-anxiety classroom environment: what does the language anxiety research suggest? *The Modern Language Journal*, 75(4), 426-439. <https://doi.org/10.2307/329492>
- Wang, L. (2013). *Daini gengo fuan ni okeru shinrigakuteki kenkyu* [The studies on psychological anxiety in second language acquisition]. Hitsuji Press.

Appendix

Directions: Please indicate the degree to which each statement applies to you by marking whether you (1) strongly agree, (2) agree (3) neither agree nor disagree (4) disagree, or (5) strongly disagree

Personal Report of Communication Apprehension (PRCA): McCroskey, J.C. (1970). Measures of communication-bound anxiety. *Speech Monographs*, 37, 269-277.

Foreign Language Classroom Anxiety Scale (FLCAS): Horwitz, E.K., Horwitz, M.B., & Cope, J. (1986). Foreign language classroom anxiety. *The Modern Language Journal*, 70(2), 125-132.

PRCA

1. I dislike participating in group discussion.
 2. Generally, I am comfortable while participating in group discussion.
 3. I am tense and nervous while participating in group discussion.
 4. I like to get involved in group discussion.
 5. Engaging in a group discussion with new people makes me tense and nervous.
 6. I am calm and relaxed while participating in group discussion.
 7. Generally, I am nervous when I have to participate in a meeting.
 8. Usually, I am calm and relaxed while participating in meetings.
 9. I am very calm and relaxed when I am called upon to express an opinion at a meeting.
 10. I am afraid to express myself at meetings.
 11. Communicating at meetings usually makes me uncomfortable.
 12. I am very relaxed when answering questions at a meeting.
 13. While participating in a conversation with a new acquaintance, I feel very nervous.
 14. I have no fear of speaking up in conversations.
 15. Ordinarily, I am very tense and nervous in conversations.
 16. While conversing with a new acquaintance, I feel very relaxed.
 17. Ordinarily, I am very calm and relaxed in conversations.
 18. I am afraid to speak up in conversations.
 19. I have no fear of giving a speech.
 20. Certain parts of my body feel very tense and rigid while I am giving a speech.
 21. I feel relaxed while giving a speech.
 22. My thoughts become confused and jumbled when I am giving a speech.
 23. I face the prospect of giving a speech with confidence.
 24. While giving a speech, I get so nervous I forget facts I really know.
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FLCAS

1. I never feel quite sure of myself when I am speaking in my foreign language class.
 2. I feel more tense and nervous in my language class than in my other classes.
 3. I would not be nervous speaking the foreign language with native speakers.
 4. I start to panic when I have to speak without preparation in language class.
 5. It embarrassed me to volunteer answers in my language class.
 6. I can feel my heart pounding when I'm going to be called on in language class.
 7. I feel confident when I speak in foreign language class.
 8. I get nervous and confused when I am speaking in my language classes.
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