

広島大学学術情報リポジトリ  
Hiroshima University Institutional Repository

Title	Communication attitudes of Japanese school-age children who stutter
Author(s)	Kawai, Norimune; Healey, E. Charles; Nagasawa, Taiko; Vanryckeghem, Martine
Citation	Journal of Communication Disorders , 45 (5) : 348 - 354
Issue Date	2012
DOI	<a href="https://doi.org/10.1016/j.jcomdis.2012.05.004">10.1016/j.jcomdis.2012.05.004</a>
Self DOI	
URL	<a href="https://ir.lib.hiroshima-u.ac.jp/00034815">https://ir.lib.hiroshima-u.ac.jp/00034815</a>
Right	(c) 2012 Elsevier Inc. All rights reserved.
Relation	



Running title: Japanese Children's Communication Attitudes

Communication Attitudes of Japanese School-Age Children Who Stutter<sup>1</sup>

Norimune KAWAI<sup>a)</sup>, E. Charles HEALEY<sup>b)</sup>, Taiko NAGASAWA<sup>c)</sup> and  
Martine VANRYCKEGHEM<sup>d), e)</sup>

<sup>a)</sup>The Center for Special Needs Education Research and Practice

Hiroshima University

1-1-1 Kagamiyama C708

Higashi-Hiroshima, Hiroshima 739-8524 JAPAN

TEL & FAX: +81-82-424-7179

Electronic mail: nkawai@hiroshima-u.ac.jp

<sup>b)</sup>Department of Special Education and Communication Disorders

University of Nebraska-Lincoln

353 Barkley Memorial Center

Lincoln, NE 68583-0738 USA

Electronic mail: ehealey1@unl.edu

<sup>c)</sup>Department of Human Psychology

Nihonbashi Gakkan University

1225-6 Kashiwa

Kashiwa, Chiba 277-0005 JAPAN

Electronic mail: [nagasawa@now.mfnet.ne.jp](mailto:nagasawa@now.mfnet.ne.jp)

<sup>d)</sup>Department of Communication Sciences and Disorders

University of Central Florida

HPA II Suite 101, 4000 Central Florida Blvd

Orlando, FL 32816-2215

Electronic mail: [martinev@ucf.edu](mailto:martinev@ucf.edu)

<sup>e)</sup>Ghent University

Sint-Pietersnieuwstraat 25

B-9000 Ghent, BELGIUM

Corresponding Author: Norimune Kawai

Abstract

Past research with the Communication Attitude Test (CAT) has shown it to be a valid and reliable instrument for assessing speech-associated attitude of children who stutter (CWS). However, in Japan, the CAT has not been used extensively to examine the communication attitude of CWS. The purpose of this study was to determine if a Japanese version of the CAT could differentiate between the communication attitude of Japanese elementary school CWS and children who do not stutter (CWNS). A Japanese translation of the 1991-revised version of the Communication Attitude Test-Revised (CAT-R) was used in this study. Eighty Japanese CWS and 80 gender- and grade level-matched CWNS participated in the study. The results showed that CWS had a significantly more negative communication attitude than CWNS. Both CWS and CWNS in 1st grade showed significantly more positive communication attitudes than the same children in 3rd, 4th, 5th, and 6th grades. Furthermore, a link between stuttering severity and CWS' communication attitude was found. Additional research is needed to confirm the results of current study, which indicate that the communication attitude of Japanese CWS becomes more negative as they get older.

**Keywords:** Communication Attitude Test; Attitude; Stuttering

## Communication Attitude of Japanese School-Age Children Who Stutter

**1. Introduction**

There is strong empirical evidence that a negative communication attitude among children who stutter (CWS) is closely linked to their fluency disorder (Brutten & Vanryckeghem, 2007; Van Riper, 1982; De Nil & Brutten, 1991; Guitar, 2005; Vanryckeghem & Brutten, 1992, 1997). Over the past two decades, several studies completed by Brutten and his colleagues have examined CWS' communication attitude using different forms of a communication attitude test originally developed by Brutten (1984). One is the Communication Attitude Test© (CAT) (Brutten, 1984; Brutten & Dunham, 1989) which consisted of 35 statements and another is Communication Attitude Test-Revised (CAT-R) (De Nil & Brutten, 1991), which consisted of 32 statements. The current version of the CAT now includes 33 statements because it was seen that two of the original 35 items did not correlate significantly with the CAT's overall score (Brutten & Vanryckeghem, 2003, 2007).

The CAT has been translated and researched in several countries around the world to investigate the speech-associated attitude of CWS. These countries include Argentina, Belgium, Brazil, Canada, Croatia, Germany, Iran, Israel, Italy, Malta, the Netherlands, Norway, Pakistan, Slovenia, Spain, Sweden, and the United States. Research has repeatedly shown that, across languages and cultures, CWS demonstrate a communicative attitude that is significantly more negative than that of children who do not stutter (CWNS) (Bernardini, Vanryckeghem, Brutten, Cocco, & Zmarich, 2009; Brutten & Vanryckeghem, 2003, 2007; De Nil & Brutten, 1991; Jaksic-Jelcic & Brestovci, 2000; Johannisson et al., 2009; Vanryckeghem & Brutten, 1992, 1996, 1997,

2003; Vanryckeghem, Hylebos, Brutton, & Peleman, 2001; Vanryckeghem & Mukati, 2003, 2006). Several of these investigations have indicated that a negative speech-associated attitude among CWS is already present as early as six years of age when comparing CWS and CWNS' CAT scores (Brutton & Vanryckeghem, 2003, 2007; De Nil & Brutton, 1991; Vanryckeghem & Brutton, 1997). In addition, several studies found that a negative attitude toward speech tends to increase with age for CWS but it decreases significantly for CWNS (e.g., Brutton & Vanryckeghem, 2003; De Nil & Brutton, 1991; Vanryckeghem & Brutton, 1997). However, there are a few studies that did not find any significant increase or decrease in negative attitudes toward speech as CWS's age increased (e.g., Bernardini et al., 2009).

Given the widespread use of the CAT around the world, it is interesting that there are limited numbers of published studies on the CAT in Asian countries. Specifically, there is only one published study using the CAT with Japanese CWS (Nagasawa & Kawai, 1998). In 1986, Gokami, Nagasawa, and Ohishi created an informal questionnaire consisting of 20 questions about attitudes toward stuttering and communication. The questionnaire was administered to 358 children who were enrolled in the 4th through 6th grades. Before giving them the questionnaire, the investigators asked the children to report if they felt their speech matched one of several samples of stuttering imitated by one of the investigators. If so, the child was classified as a CWS. Fourteen of the 358 (4%) participants considered themselves CWS and the remaining 344 reported that they were CWNS. Comparing the attitude between the two groups of children, the researchers concluded that CWS demonstrated a more negative attitude toward speech than CWNS. One problem with the Gokami et al.'s study was the method used to assess CWS. A

1  
2  
3  
4 standardized test was not used to determine if the child stuttered or not. Instead, they  
5  
6  
7 relied on the children's self-reports. Another limitation of this study was the selection of  
8  
9  
10 CWS. They only chose CWS from 4<sup>th</sup> to 6<sup>th</sup> grades. These methodological shortcomings  
11  
12  
13 raise concerns about the validity of Gokami et al.'s findings.

14  
15 In order to assess the attitude of Japanese CWS with a more standardized  
16  
17  
18 questionnaire than the one used in the Gokami et al (1986) study, Kawai (1995) translated  
19  
20  
21 the CAT-R (De Nil & Brutton, 1991) into Japanese. This instrument was called the CAT-  
22  
23  
24 J and included the same 32 items as the CAT-R. Using the CAT-J, Kawai conducted a  
25  
26  
27 pilot study of the speech-associated attitude difference between 32 CWS and 70 CWNS  
28  
29  
30 who were in the 4th through 6th grades of elementary school. Kawai (1995) found a  
31  
32  
33 significant difference in speech-related attitude between CWS and CWNS. However, it  
34  
35  
36 was observed that Japanese CWNS demonstrated a more negative attitude toward speech  
37  
38  
39 compared to CWNS in the United States and European countries (Kawai, 1995, 1997;  
40  
41  
42 Nagasawa & Kawai, 1998).

43  
44 Although the between-group difference results of Kawai's (1995) pilot study were  
45  
46  
47 similar to those of past research with the CAT (De Nil & Brutton, 1991; Brutton &  
48  
49  
50 Vanryckeghem, 2003, 2007), the study was limited in the same way to the Gokami et al  
51  
52  
53 study (1986) because the data were only collected from children in grades 4 through 6.  
54  
55  
56 Additionally, the restricted age range prevented Kawai from determining any difference  
57  
58  
59 in CAT-J scores across a wide range of ages, as had been done in other studies (De Nil &  
60  
61  
62 Brutton, 1991; Brutton & Vanryckeghem, 2003; Brutton & Vanryckeghem, 2007;  
63  
64  
65 Bernardini, et al., 2009; Johannisson, et al., 2009; Vanryckeghem & Brutton, 1997). A  
few studies have found that a negative attitude toward speech tends to increase with age

1  
2  
3  
4 for CWS but it decreases for CWNS (e.g., Brutten & Vanryckeghem, 2003; De Nil &  
5  
6 Brutten, 1991; Vanryckeghem & Brutten, 1997) although there is at least one study that  
7  
8 did not show this effect (e.g., Bernardini et al., 2009). These differences in findings might  
9  
10 be due to cultural differences among the countries where the CAT was administered.  
11  
12 Therefore, it will be important to investigate whether Japanese CWS show increased  
13  
14 negative attitudes as they get older (i.e., matriculate through elementary grades 1-6).  
15  
16  
17  
18

19 Another important factor that may affect CWS' communication attitude is  
20  
21 stuttering severity. Vanryckeghem (1997) along with Vanryckeghem and Brutten (1996)  
22  
23 found that Belgian CWS' negative communication attitude increased as their severity of  
24  
25 stuttering increased. Their findings supported the earlier findings of Miller and Watson  
26  
27 (1992) that negative communication attitude of American CWS became increasingly  
28  
29 negative as self-ratings of stuttering became more severe. However, no studies have  
30  
31 determined if stuttering severity influences Japanese CWS' attitude toward  
32  
33 communication.  
34  
35  
36  
37

38 Therefore, in order to gain a more comprehensive understanding of the speech-  
39  
40 associated attitude of Japanese CWS, the purpose of the present study was to compare  
41  
42 CAT-J scores of CWS, from 1st through 6th grade (i.e., an age range of 6-12), with those  
43  
44 of CWNS. In addition, the differences between communication attitude and stuttering  
45  
46 severity were examined. Three experimental questions were developed: 1) Does the  
47  
48 communication attitude of Japanese CWS and CWNS, as measured by the CAT-J, differ  
49  
50 significantly? 2) Do the CAT-J scores of CWS increase as they matriculate through  
51  
52 grades 1-6? and, 3) Does the communication attitude differ for Japanese CWS who show  
53  
54 mild, moderately severe, and severe stuttering?  
55  
56  
57  
58  
59  
60  
61  
62  
63  
64  
65



## 2. Method

### 2.1 Participants

Eighty (63 males and 17 females) elementary school CWS between the ages of 5; 3 (1st grade) and 12; 10 (6th grade) and 80 grade- and gender-matched CWNS (63 males and 17 females) between the ages of 5; 2 and 12; 9 participated in the present study (Table 1). The average age of the CWS was 9; 0 ( $SD = 2; 6$ ), it was 8; 10 ( $SD = 2; 1$ ) for the CWNS. None of the CWS had any speech, language, hearing, cognitive and/or learning disabilities other than a fluency disorder according to their special education teachers' reports. The Stuttering Severity Instrument third edition (SSI-3) (Riley, 1994) was used to verify that 30% of the CWS were classified as mild, 31% were moderately severe, and 39% were severe or very severe. At the time of participating in this experiment, all CWS were receiving stuttering therapy in the school setting from special education teachers (which are considered to be equivalent to school-based speech-language pathologists in the U.S.).

All of the CWNS were recruited from classrooms in the same schools where the CWS were obtained. As with the CWS, none of the CWNS had history of speech, language, hearing, cognitive, and/or learning disabilities according to their school records and teacher report. Although the SSI was not calculated for the CWNS, the classroom teacher was familiar with the SSI assessment criteria and verified that all of the CWNS would have scored below a score of 6 (i.e., very mild stuttering) on the SSI.

[Insert Table 1 about here]

## 2.2 Materials

The CAT-R (De Nil & Brutton, 1991), which consists of 32 questions, was translated into Japanese by the first and third authors in 1995 (Kawai, 1995; Nagasawa & Kawai, 1998). Then, the Japanese translation version of CAT-R was back-translated to English by the first author and a collaborator, both ASHA certified speech-language pathologists whose native language is Japanese. The back-translated version of CAT-R and the original CAT-R were compared to determine if there were any differences in terms of the expressions and meanings of each question. The first and third authors independently concluded that none of the questions in the back-translated version were different in terms of expressions and meanings from the original CAT-R that would reduce the validity of the CAT-J or mislead the Japanese participants.

At the time the CAT-J was developed by Kawai (1995), the CAT-R was the newest version of CAT available. Since then, the CAT-J version of the CAT-R is widely used by special education teachers and speech therapists in Japan. The most recent versions of CAT, which consists of 33 items (Brutton & Vanryckeghem, 2003, 2007), are highly similar to the CAT-R and have not gone through the lengthy process of being back translated into Japanese. Therefore, it was decided that the 1997 version of the CAT-J was suitable for the present study in measuring communication attitudes of Japanese CWS.

## 2.3 Procedures

The special education teacher administered the CAT-J to the CWS on an individual basis. The teacher read the instructions to each child, being sure to explain the meaning of "true" and "false" answers that were associated with each statement in the

CAT-J. All students had to answer a couple of practice statements to ensure that they understood what was expected of them.

Following the practice statements, the teacher read each statement on the CAT-J to each student in first, second or third grade to assure that they understood the content of the statement. After each statement was read, the CWS circled the answer on a copy of the CAT-J. For students in grades 4-6, instructions were read orally and the differences between “true” and “false” answers were explained. The children were asked to read the test items silently to themselves and then to circle a true/false answer to each statement. For the CWNS, either the first author or the regular classroom teachers administered the CAT-J in the children's classroom. When the first author or the regular classroom teachers administered the CAT-J to the CWNS, the CWNS were told to fill out the CAT-J individually without help or discussion with any other students. The explanations and instructions given to the CWNS were the same as ones given to the CWS. Care was taken to insure that none of the students could see the answers of another student sitting next to them and that each student had unlimited time to complete the CAT-J.

## **2.4 Data Analysis**

The CAT-J statements were scored according to the test-scoring key (Brutten & Dunham, 1989). For each statement, in accord with the scoring key, a score of “one” was given to all responses that reflected a negative communication attitude and a score of “zero” was given for all responses that indicated a positive attitude toward speech. Therefore, a high score (i.e., 13.83 or higher by Nagasawa and Kawai, 1998) on a participant's CAT-J was interpreted as indicative of a negative attitude toward communication.

Mean and standard deviation (SD) scores of the CAT-J were calculated for both groups of participants. A two-way ANOVA (group x grade) was used to determine if there were significant differences in the mean CAT-J scores between CWS and CWNS across grade levels. Another two-way ANOVA (severity x grade) was conducted to compare the mean CAT-J scores of CWS' across severity levels.

### 3. Results

The CWS' scores ranged from 1 to 26 while the CWNS' scores ranged from 3 to 15. The mean score was 14.68 ( $SD = 5.45$ ) for the CWS and 9.59 ( $SD = 3.02$ ) for CWNS (Table 1). A two-way ANOVA was conducted to test whether the observed descriptive difference between the CAT-J scores of CWS and CWNS groups across all grade levels was significant. The results also showed that there was no significant group x grade interaction; however, a significant main effect for CWS versus CWNS group ( $F(1, 148) = 56.92, p < .001$ ) was found. As Figure 1 shows, the CAT-J score of the CWS and CWNS were significantly different across grade levels. There was also a significant main effect for grade levels ( $F(5, 148) = 3.50, p < .005$ ). Post-hoc comparisons of the CAT-J scores between the groups were conducted among the six different grade levels (Ryan, 1959). The results showed significant differences between 1st and 3rd graders ( $t = 2.97, p < .005$ ), 1st and 4th graders ( $t = 3.27, p < .005$ ), 1st and 5th graders, ( $t = 2.85, p < .005$ ) and 1st and 6th graders ( $t = 3.57, p < .001$ ). No group differences were found between 1st and 2nd graders. The post-hoc testing shows that 1st graders scored significantly lower on the CAT-J than did 3rd, 4th, 5th, and 6th graders, which was the case for both CWS and CWNS.

[Insert Figure 1 around here]

The mean CAT-J scores of CWS' were assessed according to three separate categories of stuttering severity, which included 1) mild, 2) moderately severe, and 3) severe or very severe. The mean scores for mild, moderately severe, and severe stuttering were 9.79 ( $SD = 3.64$ ), 14.32 ( $SD = 4.61$ ), and 18.90 ( $SD = 3.65$ ), respectively. Descriptively, the mean scores show that speech-associated attitude becomes more negative with increases in stuttering severity. A two-way ANOVA of the CAT-J scores of CWS relative to the grades levels and severity of stuttering revealed a significant main effect for all severity levels ( $F(2, 62) = 34.61, p < .001$ ). The multiple comparison test (Ryan, 1959) showed that there was a significant difference between the CWS with mild and severe stuttering ( $t = 8.67, p < .001$ ). Similarly, there was significant difference in the CAT-J scores between the mild and moderately severe CWS ( $t = 4.21, p < .001$ ). In addition, there was significant difference between CWS who had moderately severe and severe stuttering ( $t = 4.29, p < .001$ ). However, there was no significant main effect for grade levels or severity x grade interaction effect.

#### 4. Discussion

The present study showed that the Japanese CWS scored statistically significantly higher on the CAT-J compared to CWNS. This was observed among 1st through 6th graders and suggests that Japanese CWS have more negative attitudes toward communication than CWNS. The current results are consistent with past studies that have investigated CWS' communication attitude. However, it should be noted that Japanese CWS' mean score of the CAT-J was 14.68, which is slightly lower than CWS in other countries [i.e., Belgian = 16.69 (De Nil & Brutton, 1991), American = 17.31 (Vanryckeghem et al., 2001), Italian = 20.21 (Bernardini et al., 2009)]. This does not

1  
2  
3  
4 mean that Japanese CWS do not suffer from stuttering as much as CWS in western  
5  
6 countries do. This may be due to cultural difference between Japan and western countries.  
7  
8 Barnlund (1975) found that Japanese disclose themselves less than Americans when they  
9  
10 experience embarrassment, shame, and even when they need defense against threats;  
11  
12 therefore, the “private self,” which is the part of self that remains unexpressed and hidden,  
13  
14 occupies a greater area of the total self for Japanese, whereas the “public self,” which is  
15  
16 the part of self that communicates externally, is greater for Americans. According to  
17  
18 Lebra (1983), aversion to exposure and the desire for formally flawless display  
19  
20 underlying the Japanese sensitivity for shame, act to inhibit self-expression. Therefore,  
21  
22 clinicians who work with Japanese CWS specifically need to exert themselves for  
23  
24 establishing rapport with the CWS. In terms of normative values of Japanese children, the  
25  
26 mean score of the CAT-J was 9.59, which was slightly higher mean score than other  
27  
28 countries' CWNS' scores [i.e., Swedish = 6.05 (Johannisson et al., 2009), Italian = 6.93  
29  
30 (Bernardini et al., 2009), Belgian = 8.71 (De Nil & Brutton), Pakistani = 7.44  
31  
32 (Vanryckeghem & Mukati, 2006), American = 8.24 (Brutton & Dunham, 1989)]. Again,  
33  
34 Japanese tend to avoid self-disclosure even in the situations they are supposed to be  
35  
36 boastful (Lebra, 1983). Thus, the mean score of the CAT-J might have been slightly  
37  
38 higher than that of CWNS in western countries.  
39  
40  
41  
42  
43  
44  
45  
46  
47

48 Previous studies showed that the CAT was useful in differentiating elementary-  
49  
50 school CWS from CWNS (Bernardini, et al., 2009; Brutton & Vanryckeghem, 2003,  
51  
52 2007; De Nil & Brutton, 1991, Vanryckeghem & Brutton, 1997). This suggests that the  
53  
54 CAT-J is a useful tool to differentiate Japanese CWS from CWNS based on their  
55  
56 communication attitude.  
57  
58  
59  
60  
61  
62  
63  
64  
65

1  
2  
3  
4 Unlike the De Nil and Brutton's study (1991), which revealed that the within-  
5  
6 group speech-related attitude of CWS and CWNS was not significantly different with  
7  
8 increasing age, the present study found that grade level was related to CWS'  
9  
10 communication attitude. It is interesting that both CWS and CWNS who were in first and  
11  
12 second grades scored significantly lower on the CAT-J than the 3rd, 4th, 5th, and 6th  
13  
14 graders. This suggests that Japanese children generally show relatively positive  
15  
16 communication attitude in the lower elementary grades compared to children in the upper  
17  
18 elementary grades. These findings are consistent with the results of the study by  
19  
20 Vanryckeghem and Brutton (1997).  
21  
22  
23  
24

25  
26 The data from the present study indicate that upper elementary grade Japanese  
27  
28 CWS have a speech-related attitude that is significantly different from that of CWNS.  
29  
30 This finding supports the earlier work of Bernardini et al (2009), Brutton and  
31  
32 Vanryckeghem (2003, 2007) and Vanryckeghem and Brutton (1997) that negative  
33  
34 attitudes emerge at the time a child is in first grade. The first and second grade Japanese  
35  
36 CWS in the present study did not show differences but it is not clear why this was the  
37  
38 case. The results do compare to past research that the differences in attitudes begin to  
39  
40 emerge by third grade. In this respect, Japanese children appear to be similar to other  
41  
42 children around the world in terms of how they perceive their communication abilities.  
43  
44  
45  
46  
47

48 Clearly, the finding of significant differences in the CAT scores of CWS versus  
49  
50 CWNS has become a constant in the literature (Bernardini, et al., 2009; Brutton &  
51  
52 Vanryckeghem, 2003, 2007; De Nil & Brutton, 1991; Jaksic-Jelcic & Brestovci, 2000;  
53  
54 Johannisson, et al., 2009; Vanryckeghem & Brutton, 1992, 1996, 1997, 2003;  
55  
56 Vanryckeghem, et al., 2001; Vanryckeghem & Mukati, 2003, 2006), regardless of the  
57  
58  
59  
60  
61  
62  
63  
64  
65

nationality of the children. Consequently, it could be concluded that CWS' negative attitude toward communication should be considered a universal phenomenon of the stuttering syndrome.

The present study also revealed that CWS' communication attitude become more negative as their severity of stuttering increases. The mean scores of CWS' CAT-J across mild, moderately severe, and severe were similar to the mean scores Vanryckeghem (1997) and Vanryckeghem and Brutton, (1996) for children in Belgium.

The results of the present study appear to be a valid reflection of the speech-associated attitude of Japanese children who stutter, given that a reasonably large sample of 80 CWS was obtained for this study. This sample is similar to the sample size of the De Nil and Brutton (1991) study. Nevertheless, the findings of this study need to be replicated using a larger number of participants in both the CWS and CWNS groups. In particular, one of the limitations of this study was lack of verification of SSI-3 scores of the CWNS. This would have served to separate participants into two distinct categories. Future research in this area should include the SSI-3 measure for CWNS. In this study, the special education teachers were experienced in administrating the SSI-3 for CWNS but the scores on SSI-3 were not verified by the authors or anyone else, which is another limitation of this study. Moreover, additional research is needed to confirm the results of current study, which indicate that Japanese CWS' communication attitude becomes more negative as they get older. This could be done by collecting CAT-J data on CWS who are in middle (7th through 9th) and high school grade levels (10th through 12th). This future research would add to the corpus of knowledge about communication attitude between Western and Asian countries (Bernardini, et al., 2009; Brutton & Dunham, 1989; De Nil



1  
2  
3  
4 & Brutten, 1991; Jaksic-Jelcic & Brestovci, 2000; Johannisson, et al., 2009;  
5  
6  
7 Vanryckeghem, 1997; Vanryckeghem & Brutten, 1996; Vanryckeghem & Mukati, 2003,  
8  
9 2006).

10  
11  
12  
13  
14  
15  
16  
17  
18  
19  
20  
21  
22  
23  
24  
25  
26  
27  
28  
29  
30  
31  
32  
33  
34  
35  
36  
37  
38  
39  
40  
41  
42  
43  
44  
45  
46  
47  
48  
49  
50  
51  
52  
53  
54  
55  
56  
57  
58  
59  
60  
61  
62  
63  
64  
65

**References**

- Andrews, G. & Culter, J. (1974). Stuttering therapy: The relation between changes in symptom level and attitudes. *Journal of Speech and Hearing Disorders*, 39, 312-319.
- Barnlund, D. C. (1975). Public and private self in Japan and the United States. The Simul Press, Tokyo.
- Bernardini, S., Vanryckeghem, M., Brutton, G. J., Cocco, L., & Zmarich, C. (2009). Communication attitude of Italian children who do and do not stutter, *Journal of Communication Disorders*, 42, 155-161.
- Brutton, G. J. (1984). *Communication Attitude Test*. Unpublished manuscript, Southern Illinois University, Department of Communication Disorders and Sciences, Carbondale.
- Brutton, G. J., & Dunham, S. L. (1989). The Communication Attitude Test: A normative study of grade school children. *Journal of Fluency Disorders*, 14, 371-377.
- Brutton, G. J. & Vanryckeghem, M. (2003). Behavior Assessment Battery: A multi-dimensional and evidence-based approach to diagnostic and therapeutic decision making for children who stutter, Stichting Integratie Gehandicapten & Acco Publishers, Belgium.
- Brutton, G. & Vanryckeghem, M. (2007). *Behavior Assessment Battery for school-age children who stutter*. San Diego, CA: Plural Publishing, Inc.
- De Nil, L. F. & Brutton, G. J. (1991). Speech associated attitudes of stuttering and nonstuttering children. *Journal of Speech and Hearing Research* 34, 60-66.

- 1  
2  
3  
4 Gokami, T., Nagasawa, T., & Ohishi, M. (1986). *A study of children's attitude toward*  
5  
6 *stuttering*. Oral presentation given at the 24th Convention of the Japanese  
7  
8 Association of Special Education, Koganei, Tokyo, Japan.  
9  
10  
11 Guitar, B. (2005). *Stuttering* (3<sup>rd</sup> ed.). Baltimore, MD: Lippincott Williams & Wilkins.  
12  
13  
14 Jaksic-Jelcic, S. & Brestovci, B. (2000). Communication attitudes of children who stutter  
15  
16 and those who do not, *Journal of Fluency Disorders*, 25, 208.  
17  
18  
19 Johannisson, T. B., Wennerfeldt, S., Havstam, C., Naeslund, M., Jacobson, K., &  
20  
21 Lohmander, A. (2009). The Communication Attitude Test (CAT-S): Normative  
22  
23 values for 220 Swedish children. *International Journal of Language and*  
24  
25 *Communication Disorders*, 44, 813-825.  
26  
27  
28 Kawai, N. (1995). *Speech associated attitudes of children who stutter*. Unpublished  
29  
30 manuscript, Hiroshima University, Hiroshima, Japan.  
31  
32  
33 Kawai, N. (1997). *Communication attitude of children who stutter: How their grade*  
34  
35 *levels, durations of receiving therapy, and teacher's clinical styles influence their*  
36  
37 *communication attitude?* Unpublished manuscript, Hiroshima University, Higashi-  
38  
39 Hiroshima, Japan.  
40  
41  
42  
43 Lebra, T. (1983). Shame and guilt: A psychocultural view of the Japanese self. *Ethos*, 11,  
44  
45 192-209.  
46  
47  
48 Miller, S. & Watson, B. C. (1992). The relation between communication attitude, anxiety,  
49  
50 and depression in stutterers and nonstutterers. *Journal of Speech and Hearing*  
51  
52 *Research*, 35, 789-798.  
53  
54  
55  
56  
57  
58  
59  
60  
61  
62  
63  
64  
65

- 1  
2  
3  
4 Nagasawa, T. & Kawai, N. (1998). A study of attitude change of stuttering children.  
5  
6 Bulletin of the Faculty of School Education, Hiroshima University, Part I, 20, 97-  
7  
8 108.  
9
- 10  
11 Riley, G. D. (1994). *Stuttering Severity Instrument for children and adults (third edition)*  
12  
13 (SSI-3). Pro-Ed, Austin, TX.  
14
- 15  
16 Ryan, T. A. (1959). Multiple comparisons in psychological research. *Psychological*  
17  
18 *Bulletin*, 56, 26-47.  
19
- 20  
21 Van Riper, C. (1982). *The nature of stuttering*. Englewood Cliffs, NJ: Prentice Hall.  
22
- 23  
24 Vanryckeghem, M. (1997). De Communication Attitude Test en het verband met de ernst  
25  
26 van het stotteren: Bepaald via percentage niet-vloeiendheid en een  
27  
28 beoordelingsschaal [The Communication Attitude Test and its relationship with  
29  
30 stuttering severity: Determined via percentage fluency failure and a rating scale].  
31  
32 *Signaal*, 19, 2-10.  
33
- 34  
35  
36 Vanryckeghem, M. & Brutten, G. J. (1992). The communication attitude test: A test-  
37  
38 retest reliability investigation, *Journal of Fluency Disorders*, 17, 177-190.  
39
- 40  
41 Vanryckeghem, M. & Brutten, G. (1996). The relationship between communication  
42  
43 attitude and fluency failure of stuttering and nonstuttering children. *Journal of*  
44  
45 *Fluency Disorders*, 21, 109-118.  
46
- 47  
48 Vanryckeghem, M. & Brutten, G. J. (1997). The speech-associated attitude of children  
49  
50 who do and do not stutter and the differential effect of age, *American Journal of*  
51  
52 *Speech-Language Pathology*, 6, 67-73.  
53  
54  
55  
56  
57  
58  
59  
60  
61  
62  
63  
64  
65

1  
2  
3  
4 Vanryckeghem, M., Hylebos, C., Brutten, G. J., & Peleman, M. (2001). The relationship  
5  
6 between communication attitude and emotion of children who stutter, *Journal of*  
7  
8 *Fluency Disorders*, 26, 1-15.  
9

10  
11 Vanryckeghem, M. & Mukati, S. A. (2003). The Urdu Communication Attitude Test: A  
12  
13 cross-cultural investigation. *The ASHA Leader*, 8, 150.  
14

15  
16 Vanryckeghem, M. & Mukati, S. A. (2006). The Behavior Assessment Battery: A  
17  
18 preliminary study of non-stuttering Pakistani grade-school children. *International*  
19  
20 *Journal of Language & Communication Disorders*, Volume 41, 583-589.  
21  
22  
23  
24  
25  
26  
27  
28  
29  
30  
31  
32  
33  
34  
35  
36  
37  
38  
39  
40  
41  
42  
43  
44  
45  
46  
47  
48  
49  
50  
51  
52  
53  
54  
55  
56  
57  
58  
59  
60  
61  
62  
63  
64  
65

Footnote

<sup>1</sup>Portions of these data were presented at the annual convention of the American Speech-  
Language-Hearing Association, November, 2006.

1  
2  
3  
4  
5  
6  
7  
8  
9  
10  
11  
12  
13  
14  
15  
16  
17  
18  
19  
20  
21  
22  
23  
24  
25  
26  
27  
28  
29  
30  
31  
32  
33  
34  
35  
36  
37  
38  
39  
40  
41  
42  
43  
44  
45  
46  
47  
48  
49  
50  
51  
52  
53  
54  
55  
56  
57  
58  
59  
60  
61  
62  
63  
64  
65

Acknowledgments

The authors would like to thank Dr. Gene J. Brutton for useful discussions and giving them useful suggestions and ideas to analyze the data. They also thank Ms. Junko Yarimizo, M.S., CCC-SLP, who back-translated CAT-J to English to make sure the Japanese version of CAT appropriately reflected the meaning of each question of CAT-R, and the schools and students that participated in the present study.

1  
2  
3  
4  
5  
6  
7  
8  
9  
10  
11  
12  
13  
14  
15  
16  
17  
18  
19  
20  
21  
22  
23  
24  
25  
26  
27  
28  
29  
30  
31  
32  
33  
34  
35  
36  
37  
38  
39  
40  
41  
42  
43  
44  
45  
46  
47  
48  
49  
50  
51  
52  
53  
54  
55  
56  
57  
58  
59  
60  
61  
62  
63  
64  
65

Table 1

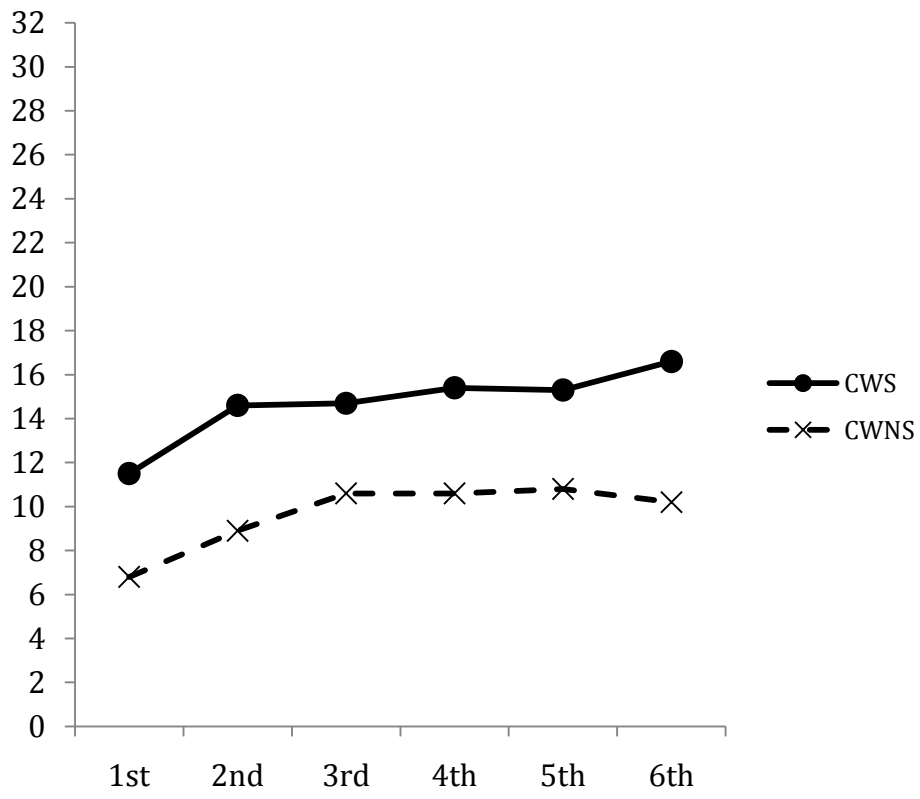
*Descriptive Statistics of the CAT-J Scores for the CWS and CWNS at Each of Six Grade Levels*

CWS						CWNS					
Grade	<i>N</i>	<i>M</i>	<i>Range</i>		<i>SD</i>	Grade	<i>N</i>	<i>M</i>	<i>Range</i>		<i>SD</i>
1st	12	11.50	6.00	16.00	3.37	1st	12	6.75	3.00	10.00	2.86
2nd	14	14.57	7.00	20.00	4.18	2nd	14	8.86	3.00	14.00	3.51
3rd	14	14.71	1.00	26.00	6.70	3rd	14	10.64	7.00	15.00	2.62
4th	14	15.43	5.00	25.00	5.88	4th	14	10.64	4.00	14.00	2.53
5th	12	15.25	7.00	24.00	6.27	5th	12	10.08	6.00	14.00	3.00
6th	14	16.57	8.00	26.00	5.12	6th	14	10.21	7.00	14.00	2.04
Total	80	14.68	1.00	26.00	5.45	Total	80	9.59	3.00	15.00	3.02



Figure Caption

*Figure 1.* The mean CAT-J scores for CWS and CWNS at six different grade levels.



Educational Objectives:

The reader will be able to:

1. Describe the process that was used to develop a Japanese version of the Communication Attitude Test (CAT-J).
2. Discuss attitude differences between Japanese children who stutter and those who don't and how grade level impacts a negative attitude toward communication.
3. Understand the link between stuttering severity and attitudes of Japanese children who stutter.

## Highlights

- The present study showed that the Japanese CWS scored statistically significantly higher on the CAT-J compared to CWNS, which was observed among 1st through 6th graders.
- The present study found that grade level was related to CWS' communication attitude. Both CWS and CWNS who are in first grade scored significantly lower on the CAT-J than did 3rd, 4th, and 6th graders.
- CWS' communication attitude became more negative as their severity levels of stuttering increased.

## Appendix A. Continue Education Questions

1. The CAT-J has been developed because:
  - (a) there are limited numbers of published studies on the CAT in Japan and other Asian countries
  - (b) there were concerns about the validity of Gokami et al.'s (1986) questionnaire to measure CWS' communication attitude
  - (c) it was worthwhile to compare communication attitudes among clients with a variety of communication disorders
  - (d) (a) and (b)
  - (e) (b) and (c)
  
2. The present study found that the communication attitude of CWS is significantly more negative than that of CWNS for which one of the following?
  - (a) only for Japanese children
  - (b) only for Asian children
  - (c) only for European children
  - (d) only for American children
  - (e) in children in all countries where the CAT has been researched.
  
3. The present study reported that both CWS and CWNS show that:
  - (a) 1st graders scored significantly lower on the CAT-J than did 3rd, 4th, and 6th graders
  - (b) 6th graders scored significantly lower on the CAT-J than did 1st, 3rd, and 4th graders.
  - (c) no significant difference occurred among different grades
  - (d) the results are consistent with the De Nil and Brutton's (1991) study that attitudes become more negative as grade level increases
  - (e) none of above
  
4. The present study revealed that the communication attitude of CWS:
  - (a) stays the same regardless of their grade levels and severity of stuttering
  - (b) is more negative for children in the upper elementary grades compared to those in the lower elementary grades
  - (c) is more negative for children who have not received therapy
  - (d) (a) and (b)
  - (e) (b) and (c)
  
5. Given the results of the present study, future research should:
  - (a) develop other Asian language versions of CAT in order to reveal how CWS' communication attitude differ among Asian countries
  - (b) collect data on CWS and CWNS who are in pre-schools and kindergartens in order to determine if the communication attitude of CWS is more negative than those of CWNS of similar age
  - (c) collect data on CWS who are in middle and high schools to confirm whether CWS' communication attitude becomes more negative as they get older
  - (d) (a) and (b)

(e) (b) and (c)

Answers: 1. (d), 2. (e), 3. (a), 4. (b), 5. (c)