

Table 1 Subject attribution

Products	Number of Subjects (Male, Female)	Age	Remarks
Eye glasses	22 (3, 19)	26.4 ± 1.9	
Contact lenses	20 (0, 20)	26.4 ± 1.9	
Wheelchairs	22 (20, 2)	40.2 ± 7.6	Manual: 7, Electric: 15
Prostheses	14 (13, 1)	57.9 ± 12.9	Above knee: 9, Below knee: 1, Below knee and above knee: 1, Both arms: 1
Dysphemia reducing devices	4 (2, 2)	30.5 ± 14.2	Metronome: 2, DAF (Delayed Auditory Feedback): 2

Table 2 Results of reliability tests

Test-retest	Total	Eye glasses	Contact lenses	Wheelchairs	Frostheses
		Pearson Coefficient	0.82	0.92	0.74
Internal Consistency Cronbach's	Competence	0.83	0.86	0.63	0.94
	Adaptability	0.93	0.94	0.78	0.96
	Self-esteem	0.75	0.91	0.69	0.80
	Total	0.96	0.97	0.93	0.94
Internal Consistency Cronbach's	Competence	0.92	0.95	0.87	0.84
	Adaptability	0.92	0.93	0.84	0.94
	Self-esteem	0.89	0.90	0.79	0.75

Table 3 Results of dysphemia reducing devices

Subject	Frequency of stammering (%)		PIADS total score
	Before	After	
A	24	5-25	27
B	36	22	17
C	62	4-12	42
D	40	11-18	38

The result of the test-retest reliability and internal consistency, which are instituted on the users of eyeglasses, contact lenses, wheelchairs and prostheses, is shown on Table 2. In the test-retest method, we did the same examination twice 3 weeks periods, and calculated its Pearson's correlation coefficient. We used Cronbach's coefficient alpha in calculating internal consistency.

From results of test-retest, we confirmed that the total score and the sub-scale score of Competence, Adaptability and Self-esteem are reliable enough. And from the result of Cronbach's coefficient alpha, we also verified the reliability of internal consistency. In this way, each score can be on a highly reliable scale.

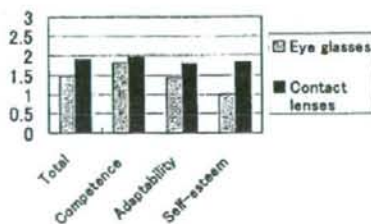


Fig. 1 PIADS score of eye glasses and contact lenses

Fig.1 shows the PIADS score of eye glasses and contact lenses. All scores of contact lenses are larger than these of eye glasses. These results indicated similar trend to the results of English version of PIADS¹⁾. So, validity of J-PIADS is supported by these results.

We also investigated the effect of behind the ear metronome and DAF (Delayed auditory feedback) as dysphemia reducing devices after four stuttering adults had used them (two had used metronome and the others DAF) for between 6 months to 20 months, and evaluated their psychological impacts with PIADS. Table 3 shows the results of the evaluation of telephone speech and PIADS total score. Subjects who have more reduction of the frequency of stuttering tend to indicate larger psychological impact. These results prove the scales to be valid.

4 Conclusions

We formulated a J-PIADS as a scale that evaluates the psychological impact of assistive products. This scale is composed of 26 items: competence subscale, adaptability subscale and self-esteem subscale. The investigation that was conducted on the users of eye glasses, contact lenses, wheelchairs and prostheses proves the scale to be reliable enough. In addition, the inspections that was conducted on the users of eye glasses, contact lenses and dysphemia reducing products support validation of J-PIADS.

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5 Reference

1) Jutai, J.: Quality of life impact of assistive technology, Rehabilitation Engineering, 14 (1), 2-7, 1999

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