

## Abstract

### A Study on the Differences of the Chewing Skills for Normal Infants and Young Children Between Korean and Foreign Food Texture

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**Objective :** The purpose of this study was to investigate the differences of the chewing skills of normal infants and young children between Korean and foreign food texture.

**Methods :** 30 infants and young children, between 2 to 4 years old, participated in this study. Eight different kinds of food were provided including porridge, apple sauce, rice, toasted bread ' , Schrimp chips' , 'Graham biscuits' , kimchi, and tin-caned fruit.

**Results :** The results of this study were as below; First, chewing cycles for Korean and foreign food texture were significantly different between porridge and apple sauce, and between rice and toasted bread. The reciprocal interactions were observed between 'Schrimp chips' and 'Graham biscuits' . Second, chewing times were significantly different between rice and toasted bread.

**Conclusion :** It can be concluded that there were significant differences in chewing cycles and chewing times between Korean and foreign food. It is likely that there are limitations when using foreign food in the tests for Korean children. It is necessary to identify suitable food texture which can be used for Korean children. From there, the battery of feeding skills to measure the oral motor functions can be developed and the standards for the oral function development for Korean children can be established.

**Key words :** Battery of feeding skills, Chewing cycles, Chewing skills, Chewing times, Developing oral motor function, Food texture

## Abstract

### Agreement Between Parents and Therapists of the Manual Ability Classification System for Children With Cerebral Palsy

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**Objective :** The aim of this study was to determine the agreement between parents and therapists in assessed manual ability using the Manual Ability Classification System (MACS) for children with cerebral palsy.

**Methods :** The subjects were 136 children with cerebral palsy who are undergoing rehabilitation programs in 16 welfare centers. Their parents and therapists assessed the manual abilities of the children using MACS. Agreement between the parents and therapists was determined using an Intraclass Correlation Coefficient (ICC).

**Results :** The mean age of the 136 children (73 male, 63 female) was 7 years, 6 months (range of 4 years, 0 months - 13 years, 6 months). The overall agreement between parents-assessed and therapists-assessed MACS was good (ICC = .84, 95% confidence interval, .77-.88).

**Conclusion :** MACS is designed to classify how children with CP use their hands when handling objects in daily activities. MACS offers a reliable method for population-based research, and for communicating the manual ability of children with CP.

**Key words :** Agreement, Cerebral palsy, Classification, MACS, Manual ability

## Abstract

### Relationship Between Sensory Processing Styles and Personality

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**Objective :** The relationships between the AASP and KAD were examined.

**Methods :** AASP and KAD were executed for 50 healthy adults between the ages of 21 and 26. KAD was conducted by requesting its execution from a professional company. KAD was carried out in April of 2008. AASPs were distributed directly to the participants and collected. Descriptive statistics were used for adult sensory processing, and a comparison of sensory processing styles of males and females was analyzed using an independent t-test. Relativity between the AASP and KAD were analyzed using Pearson's correlation analysis.

**Results :** As a result of the relationship between AASP and KAD, low sensory registration was negatively correlated with sentiment and emotion ( $p < .05$ ). With leadership, sensory seeking was positively correlated, and sensory sensitivity was negatively correlated ( $p < .05$ ).

**Conclusion :** Passive behavioral responses associated with a high neurological threshold can be a factor disturbing the development of personal sentiment and emotion, and a low threshold can cause shyness and introverted tendencies. Also, active behavioral responses associated with a high neurological threshold can improve self-confidence and leadership. It can be confirmed that sensory processing can be an important factor affecting personality development.

**Key words :** Personality, Sensory Processing Styles

## Abstract

### Tube Feeding of Dysphagia: The Effect of Oroesophageal Tube Feeding

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**Objective :** The purpose of this study is to ascertain how to use oroesophageal tube feeding, and to compare the complications of oroesophageal tube feeding and nasogastric tube feeding. This study is also used to investigate the effects of inserting and removing an oropharyngeal tube in the oropharyngeal mucous membrane, and to discover the effects of an injured mucous membrane, damaged from the insertion and removal of a tube, on a patient's swallowing function and diet.

**Methods :** The subjects are made up of 31 dysphagia inpatients of the A medical center who are able to use oroesophageal tube feeding. The subjects' criteria are as follows: 1) onset of the condition within three months, but with stabilization and the ability to receive swallowing therapy, 2) enforcement of non-oral feeding, 3) ability to understand the method of oroesophageal tube feeding, and 4) agreement to this study. Using a medical chart, an outcome measurement is used to compare complications, and changes of diet are used to evaluate the swallowing function before and after applying oroesophageal tube feeding.

**Results :** The duration of oroesophageal tube feeding is  $30.71 \pm 51.78$  days. The subjects suffer from brain injuries (64.52%), head and neck cancer (19.35%), Parkinson's disease, and cervical injuries (16.13%). Complications using nasogastric tube feeding arose in 8 subjects (25.82%), including pneumonia, diarrhea, and hemorrhaging. This is more than the complications from esophageal tube feeding, which inflicted 2 persons (6.46%). Also, when inserting and removing the oropharyngeal tube, there were no negative effects on the oropharyngeal mucous membrane, oropharynx, or larynx. In esophageal tube feeding, there is a significant increase in diet progression ( $p < .00$ ).

**Conclusion :** The complications in using esophageal tube feeding are lower than in nasogastric tube feeding. Also, repetitive mechanical stimulation from inserting and removing the tube does not affect the progress of swallowing function or diet.

**Key words :** Complication, Dysphagia, Non-oral feeding, Oroesophageal tube, Tube feeding

## Abstract

### The Effect of Olfactory Stimulation on the Swallowing Function Recovery of Stroke Patient

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**Objective :** The purpose of this study was to investigate the effects of olfactory stimulation using Black Pepper Oil (BPO) on the swallowing function recovery of patients with dysphagia after suffering a stroke.

**Methods :** Twenty patients with dysphagia after suffering a stroke were examined, and divided into a control group of 10 people given swallowing therapy intervention using BPO olfactory stimulation, and an experimental group of 10 people given swallowing therapy intervention using olfactory stimulation with distilled water. A Functional Dysphagia Scale was used to compare the subjects' swallowing function before and after treatment intervention over a 6-week period, and the following results were obtained.

**Results :** After the swallowing therapy using BPO olfactory stimulation, the subjects' swallowing functions were significantly improved ( $p < .05$ ). An itemized change of swallowing function from the swallowing therapy intervention using BPO olfactory stimulation showed a statistically significant difference in the triggering of pharyngeal swallowing, laryngeal elevation and epiglottic closure, valleculae residue, and pharyngeal transit time ( $p < .05$ ). **Conclusion :** Swallowing therapy using BPO olfactory stimulation improved the swallowing function of stroke patients with dysphagia. Therefore, swallowing therapy using BPO olfactory stimulation can be considered for useful application in clinical work therapy as a new method of swallowing therapy, particularly since its cost is inexpensive and the method is simple.

**Key words :** Dysphagia, Functional dysphagia scale, Olfactory stimulation, Stroke

## ABSTRACT

### Effectiveness of Balance Training Based on Virtual Reality Game for the Elderly

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**Objectives :** The purpose of this study is to evaluate the improvement of balancing ability of the elderly after the virtual reality game, Wii-Fit.

**Methods :** For 20 elderly in good health, living in Daegu metropolitan city we took them the balance training called Balance scale test and One-leg stand test for six weeks.

**Results :** There were significant differences in both static and dynamic balance as a result of balance training( $P<0.05$ ). The balance ability depending on the sex shows statistically meaningful difference at the right leg standing with open eyes, right leg standing with closed eyes, left leg standing with open eyes before balance training, left leg standing with open eyes after balance training( $P<0.05$ ). The balance ability of 60s and 70s has statistically meaningful result before and after training through berg balance test result. As a result of one leg test, statistical data of right leg standing with open eyes shows difference( $P<0.05$ ).

**Conclusion :** Virtual reality game can be used to improve balancing ability of the elderly because Wii-Fit balancing program turns out statistically meaningful. This suggests that it is necessary variety of software need to be developed for the elderly.

**Key words :** Balance, Berg balance scale, One-leg stance test, The elderly, Virtually reality game

## Abstract

### The Comparison of Simplified Postural Assessment Scale for Stroke and Berg Balance Scale Used for Stroke Patients

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**Objective :** The purpose of this study is to simplify the Postural Assessment Scale for Stroke Patients – 4 Level (PASS-4L), and Berg Balance Scale – 5 Level (BBS-5L), into a 3 Level Assessment Scale. The data obtained from the simplified 3 Level Assessment Scale is then compared with those from both PASS-4L and BBS-5L in order to ascertain their reliability as well as validity characteristics.

**Methods :** This study used data from 62 patients in total. Data recorded in the form of PASS-4L (0-1-2-3) was converted into adjusted PASS-3L (ie, 0-1.5-3) in order to form PASS-3 Levels. Similarly, data recorded in the form of BBS-5L (0-1-2-3-4) was converted into adjusted PASS-3L (ie, 0-2-4). To examine the test-retest reliability, the PASS-3L and BBS-3L were administered to each participant by rater A in 2 testing sessions 3 days apart. To allow the evaluation of inter-rater reliability, the score was rated simultaneously by raters B (PASS, BBS-3L) and C (BBS, PASS-3L) in the latter testing session. The reliability indexes (intra-class correlation coefficient, ICC<sub>3,1</sub>) of both simplified PASS-3L & BBS 3L were used for the intra-rater and inter-rater reliability, and Cronbach's  $\alpha$  was obtained. Standard Error Measurement (SEM) and Smallest Real Difference (SRD) methods were used to obtain the reliability index of measurement errors. We also made a correlation assessment using a Pearson's correlation coefficient to figure out the concurrent validity between PASS (PASS-3L) and BSS (BSS-3L) as well as the convergent

validity between Modified Barthel Index (MBI) and Fugl Meyer-Motor (FM-M) Scale.

**Results :** The PASS-3L and BBS-3L showed high intra-rater (ICC<sub>3,1</sub>=.96, .96, respectively) and interrater reliabilities (.95, .94, respectively). The absolute reliability of the PASS-3L and BBS-3L released more accurate measurements (SEM=.99, 1.55; SRD=1.74, 4.30, respectively). The internal consistencies of PASS-3L and BBS-3L are expressed using Cronbach's  $\alpha$  coefficient as .77 and .85, respectively. The PASS-3L and BBS-3L showed high concurrent validity ( $r=.75-.93$ ,  $p<.01$ ) and convergent validity with the MBI and FM-M scores ( $r=.42-.79$ ,  $p<.01$ ).

**Conclusion :** The PASS-3L BBS-3L showed high reliability and validity, and thus it can be stated that the proposed simplified 3-Level scale will be a useful clinical tool for evaluating balance in stroke patients.

**Key words :** Balance, Berg Balance Scale, Postural Assessment Scale for Stroke, Reliability, Stroke

## Abstract

### Effects of a Tailored Activity Program(TAP) to Manage Neuropsychiatric Behaviors in Client With Dementia and Reduce Caregiver Burden

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**Objective :** The purpose of this study is to assess whether a tailored activity program (TAP) affects patients' dementia-related neuropsychiatric behavioral symptoms, promotes their activity engagement, or enhances caregiver well-being.

**Methods :** Between June to October of 2009, a TAP was applied to 4 dementia patients and 4 of their family caregivers. The TAP was applied 2 times a week for 7 weeks to the patients, who are visitors of the Y-city Center for Managing Dementia in Gyeonggi-do. The TAP, conducted through home visitations, was based on human occupation. It was advanced in order to ascertain neuropsychiatric behavioral symptoms and provide a case study of caregiver burden.

**Results :** Compared to the period prior to taking the TAP, the neuropsychiatric behavioral symptoms of dementia severity and frequency scores decreased, but the difference was not statistically significant. However, the neuropsychiatric behavior symptoms of dementia-related caregiver burden was significantly statistically reduced.

**Conclusion :** A TAP based on human occupation seems to have an effect in progressing a patient' s ADL capabilities, and in reducing their neuropsychiatric behavioral symptoms and the physiological responsibilities of their caregivers.

**Key words :** Caregiver Burden, Dementia, MOHO, Neuropsychiatric Behaviors, TAP

## Abstract

### Time Use of Areas of Occupation According to the Periods of Life in Koreans

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**Objective :** The purpose of this study was to regroup behavior on the data of '2004 Time Use Survey', and to compare time use of areas of occupation according to the periods of life in Koreans.

**Methods :** A researcher analyzed time use data of men and women (n=30,437) aged 12 years and over collected as part of the '2004 Time Use Survey'. The periods of life were divided into 5 periods (early adolescent, post-adolescent, early adult, adult, and elderly), and behaviors were classified by areas of occupation in OTPF.

**Results :** Adult spend more time on work and IADL, and the most time on education and rest and sleep appeared in early adolescent and elderly each other. The time use on leisure in elderly was high indoor activities then outdoor. Men spent more time on work, but women on IADL.

**Conclusion :** The results showed that there was a gender and periods of life difference in the time use on all. Therefore, our study suggests that occupational therapists need to include the analysis time use pattern according to periods of life and gender during occupational therapy for individuals need to intervention of occupational balance.

**Key words :** Occupational balance, Time use, Time use survey

## Abstract

### The Change of Awareness of Decision on Employment Through the Fieldwork for Occupational Therapy Students

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**Objective :** The purpose of this study was to investigate the fieldwork satisfaction of students majoring in occupational therapy (OT), and to ascertain a change of perception on deciding on a course after fieldwork, and on a desired field and facility.

**Methods :** Structured questionnaires were distributed to undergraduate students majoring in OT from June 23rd to December 30th of 2008. The questionnaires of 346 respondents were analyzed through cross- and multi-reply analyses, a marginal homogeneity test, and a Kruskal-Wallis test using SPSS ver. 17.0.

**Results :** In fieldwork satisfaction, highly satisfied items were diversity of therapeutic equipment and tools, regular education, and recognition of the importance of fieldwork. Items appearing to have low satisfaction were an offer of various learning materials and an evaluation of fieldwork. After fieldwork, the students' ratio of desired employment as an occupational therapist increased from 82.7% to 95.6%. The desired fields were in the order of physical dysfunction (adult), children's health, and mental health. Among the 346 respondents, 113 changed their decision on a desired field, which is statistically meaningful. The awareness of their decisions on employment and desired field changed positively for 57.2% students and negatively for 6.7%.

**Conclusion :** Based on the results of this study, we identified that the awareness of one's decision on employment and desired field changes through fieldwork.

**Key words :** Awareness of decision on employment, Fieldwork, Satisfaction of fieldwork