

【共同研究】

Effects of Dohsa-method induced Positive Mind-body Experiences on Enhancing Nostalgic Affects 懐かしさの感情を高揚させる動作法の快適な心身の体験

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Abstract: This study examined the effects of positive mind-body experiences on enhancing nostalgic affects elicited by sound stimuli in college students. Experiment 1 examined the effects of the Dohsa-method relaxation on inducing positive mind-body experiences using a body experience scale, a multiple mood scale, and EEG pleasantness evaluation. Experiment 2 examined the effects of positive mind-body experiences on enhancing nostalgic affects with sound stimuli (“a bird’s song,” “the murmur of a stream,” etc.), using a 10-item affective scale consisting of two factors (“intimacy” and “painfulness”). Results indicated that the Dohsa-method relaxation did produce a positive mind-body state and an increased EEG pleasantness and enhanced nostalgic affects with the sound stimuli. These results suggest the possibility of developing a Dohsa-method-based life review therapy for the elderly.

Key words: Dohsa-method, positive mind-body experiences, EEG pleasantness, nostalgia.

Recently, a considerable attention has been focused on life review or reminiscence for improving life satisfaction and subjective well-being in elderly people. Life review is the universal mental process involving reminiscence, and the process includes self-reflection behavior which might result in reintegration of unresolved past conflicts and greater satisfaction with one’ life (Butler, 1970). Life review leads for elderly people to decreased anxiety, depression, and enhanced self-esteem, sense of self-identity, and ability to cope with stress. The changes in self-schema that occur with ego-integrity and enhanced self-concept also influence one’s positive evaluation of life constructs, and improve subjective well-being (Maralyn & Lara ,1988; Peck, 2001). Nostalgic affect is an affective/cognitive component experienced in life review (Kaplan, 1987). Nostalgic affect or nostalgia is a universal affect that results in a heightened mental state, an enhancing, uplifting mood related to particular memories of the past. Although, nostalgia contains mixed cognitive/affective aspects of the past (i.e., pleasant memory or painful memory), it’s function may be a reorganization of the past experience. And this reorganization may strengthen subjective well-being, and enhance self-esteem as well, while alleviating negative cognitive/affective attitudes toward the past.

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As described above, the function of life review is a reevaluation of the positive and negative affects of the past experiences, and reorganize these aspects into a harmonious cognitive/affective state. To achieve this purpose, life review should start from a secure or pleasant past experience rather than beginning with a severe or painful past memory. As suggested from Bower (1981), the positive mind-body experience would facilitate to access the positive affective aspects of the past experiences which alive under the subconscious world. This may lead to a restoration or discovery of positive aspects of self-image connected with positive mind-body experiences in the past, and in turn may improve positive cognitive/affective attitudes towards his/her life (Davis & Rebecca, 2002; Hertz, 1990).

As indicated in the previous studies, the Dohsa-method relaxation could enhance positive mind-body experiences, and establish positive affective/cognitive attitudes towards oneself, others, and the external world. For example, Konno & Yoshikawa (2004) found that the Dohsa-method relaxation reduce depressive states in undergraduate students using Zung's self-rating depression scale (SDS) (Fukuda & Kobayashi, 1983) and Yatabe-Guilford personality inventory. These findings have suggested that the Dohsa-method relaxation induced positive mind-body states would facilitate to access his/her own past experience, and to enhance nostalgic affects embodied in mind-body process (Konno & Uesugi, 2003; Konno, Uesugi, & Yoshikawa, 2004).

This study comprised two experiments. In Experiment 1, the effects of the Dohsa-method relaxation on inducing positive mind-body experiences was examined using a multiple mood scale, and an EEG pleasantness evaluation. Experiment 2 examined whether the Dohsa-method would enhance nostalgic affects with sound stimuli using an affective scale.

Experiment 1

Method

Participants

Participants were twenty female undergraduate students ranging in age from 19 to 23 yrs with mean age 20.3 yrs. They were assigned to either the Experimental group (n=10) receiving the Dohsa-method relaxation, or the Control group (n=10) without receiving any particular treatment. All participants provided a written informed consent. The participants in the Experimental group were instructed the procedure of the Dohsa-method relaxation, then gave a informed consent.

Dohsa-method relaxation

The Dohsa-method relaxation using "Touch with the Melting Experience (Tokeai-Dohsa method)" (Konno, 2005) was administered individually by a female practitioner (the second author of this study). The procedure of Tokeai-Dohsa method, as provided further details of the procedure elsewhere (Konno, 1997, 1999), was as follows: the experimenter (the second author of this study) softly touches on the participant's body and gently pressed the body, then released the pressure slowly. While releasing the pressure, both the experimenter and the participant were able to feel good sensations such as a sense of warmth, a sense of stretching, and a sense of moving, and could share these good sensations with each other. Tokeai-Dohsa method was administered to the shoulders, the head, the neck, and the back. It took about 20 minutes. On the other hand, the participants in the Control group had a twenty-minute rest.

Measurements

Mood Scale. Of the abbreviated version of a multiple mood scale (Terasaki, Kishimoto, & Koga, 1992), “Depression-Anxiety” (worry, anxious, suffering, uneasy, poor confidence), “Well Being” (relief, relaxed, peaceful, comfortable, pleasant) and “Liveliness” (lively, vigorous, energetic, fresh, cheerful) subscales were used. Each item was evaluated with a 4-point rating scale (1=not at all to 4=very much), and assigned 1 to 4 points respectively.

EEG Pleasantness. The HSK-Monitoring System (Yoshida & Iwaki, 2000) was used to evaluate EEG pleasantness as an index of psychologically relaxed state. EEG was detected through a headband sensor equipped with the two electrodes placed on the left and the right forehead, and a reference electrode was attached to the left ear, and recorded with the participant’s eyes closed. The spectrum of frequency fluctuation in α -wave was calculated by FFT (fast Fourier transform) method, in which one subset for the spectrum was 512 point (25.6s), and the spectra of 4 sets were averaged to obtain an index of pleasantness of EEG activity.

Procedure of Experiment

The experiment was carried out individually in a calm and comfortable room, sitting on a chair. After a five-minute pre-rest period, the Experimental and the Control groups underwent an EEG recording for two minutes, then answered a body experience scale and a multiple mood scale as a pre-test. Following the pre-test, the Experimental group received the Dohsa-method relaxation, while the Control group took a 20-minute rest without doing any particular activity. Then, both the Experimental and the Control groups carried out a post-test similar to those completed in the pre-test. At the end of the experiment, participants made an introspective report on the current cognitive/affective states. It took approximately 50 minutes to accomplish the whole experiment.

Results

Comparisons of Mood Scale Scores

Figure 1 illustrates a comparison of average scores for “Depression-Anxiety.” Although the Control group revealed a no remarkable pre-post difference for “Depression-Anxiety scores,” a remarkable decrease in a post-test score was found in the Experimental group. A two-way Analysis of Variance with one between subject factor (Group) and one within subject (Pre-post) revealed significant main effects for Group ($F(1, 18) = 7.383, p < .05$) and for Pre-post ($F(1, 18) = 33.907, p < .001$), and a significant Group by Pre-post interaction effect ($F(1, 18) = 50.651, p < .001$). Pair comparisons using Bonferroni revealed a significant group difference for post-test scores ($t = 2.819, df = 18, p < .05$).

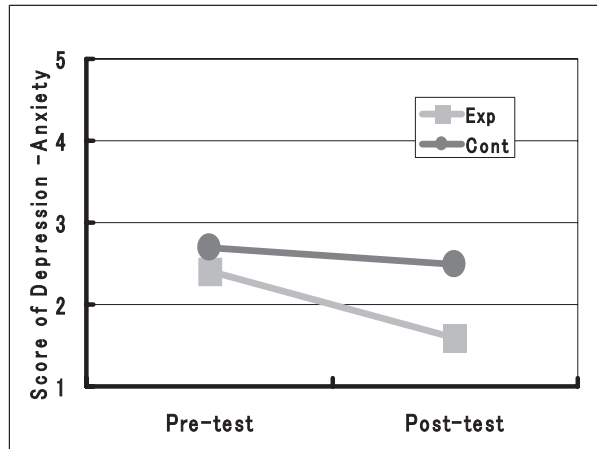


Figure 1
Comparison of pre-post test scores between Experimental and Control groups for Depression-Anxiety scale.

As shown in Figure 2, the post-test score for “Well Being” increased in the Experimental group, while decreased in the Control group. A two-way Analysis of Variance revealed a significant main effect for Group ($F(1, 18) = 20.866, p < .001$), and a significant interaction effect between Group and Pre-post ($F(1, 18) = 59.875, p < .001$). Pair comparisons using Bonferroni revealed a significant group difference for post-test.

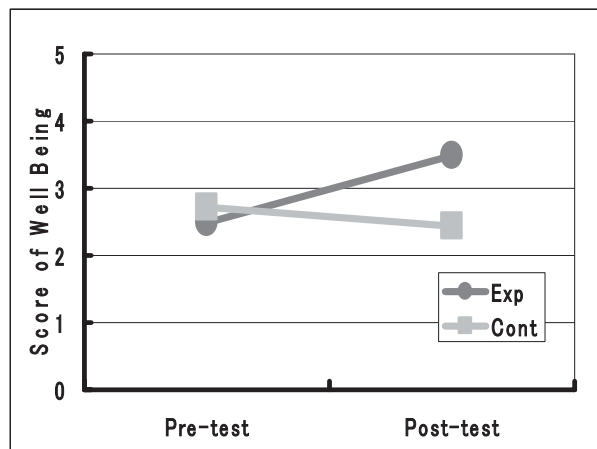


Figure 2
Comparison of pre-post test scores between Experimental and Control groups for Well Being scale.

As illustrated in Figure 3, there were no distinctive pre-post or group differences for scores of "Liveliness." A two-way Analysis of Variance could not reach significant main effects for Group ($F(1, 18) = 2.342, n.s.$), for Pre-post ($F(1, 18) = 1.143, p > .05$), or for a significant Group by Pre-post interaction ($F(1, 18) = 3.564, n.s.$).

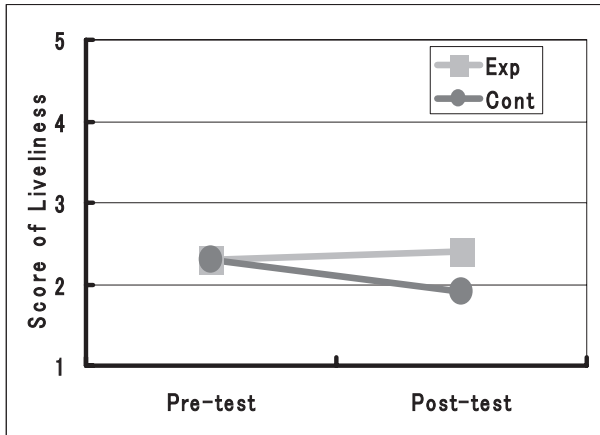


Figure 3
Comparison of pre-post test scores between Experimental and Control groups for Liveliness scale.

Comparison of EEG Pleasantness

Figure 5 shows the comparison of EEG pleasantness. The degree of post-test EEG pleasantness (%) increased in the Experimental group, whereas decreased in the Control group. A two-way analysis of Variance with one between subject factor (Group) and one within subject (Pre-post), revealed a significant interaction effect between Group and Pre-post ($F(1, 18) = 12.215, p < .001$). However, there were no significant main effects for Group ($F(1, 18) = 3.750, n.s.$) or for Pre-post ($F(1, 18) = 2.927, n.s.$). Pair comparisons using Bonferroni revealed a significant group difference for post-test.

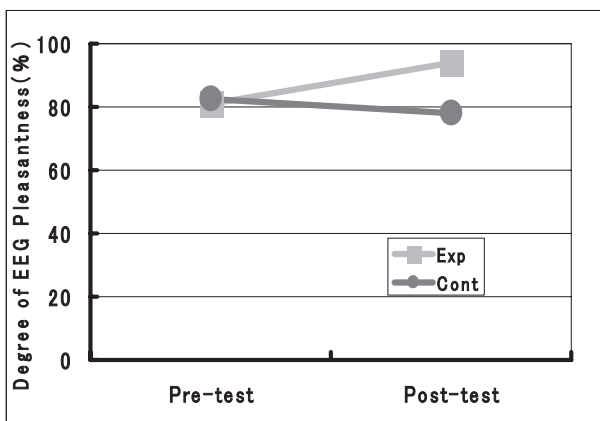


Figure 4
Comparison of pre-post test scores between Experimental and Control groups for EEG Pleasantness.

Experiment 2

Method

Participants

Thirty undergraduate students with mean age 21.3 yrs ranging from 19 to 23 yrs participated in this study. After obtaining their written informed consent, the participants were assigned either to the Experimental group (n=15, four males and eleven females) receiving the Dohsa-method relaxation, or to the Control group (N=15, three males and twelve females) without undergoing any intervention or any particular activity except for taking a 20-minutes rest. The Dohsa-method relaxation using “Touch with the Melting Experience” was administered individually by a female practitioner (the second author) to the female participants, and by a male practitioner (the first author) to the male participants. The experiment was carried out individually in the Experimental group, whereas the experiment was administered on a group basis in the Control group. Each group consisted of 5 participants.

Sound Stimuli

Before selecting sound stimuli, forty-six students (mean age 20.7 yrs) answered the questionnaire concerning sound memory which could elicit nostalgic affects. In this study, as the most representative stimuli eliciting nostalgic affects, “a bird’s song,” “the murmur of a stream,” “the sound of chopping vegetables,” and “the sound of tofu vendor’s flute” were used. These sound stimuli were selected as having a function to elicit nostalgia, since they were familiar sounds experienced in a conventional Japanese life. Each stimulus was recorded on an audio tape, and presented for 30 seconds using SONY micro hi-fi component system CMT-M100.

Affective Experience Scale

Konno and Uesugi (2003) developed a 9-item affective experience scale. This scale consisted of two factors: “intimacy” (eigenvalue=5.030, variance=42.795%, $\alpha = .857$; intimate, attractive, familiar, happy, comfortable, heart warming, nostalgic), and “painfulness” (eigenvalue=1.653, variance=17.161%, $\alpha = .731$; sad, lonely). Immediately after listening to the sound stimulus, participants completed the affective experience scale to evaluate nostalgic affects. Each item was evaluated using a 5-point rating scale and assigned 1 to 5 points respectively.

Dohsa-method relaxation

The participants of the Experimental group underwent the Dohsa-method relaxation using “Touch with the Melting Experience” on the shoulders, the head, the back, the neck, and the waist, for 20 minutes.

Procedure of Experiment

At the pre-test, the Experimental and the Control groups answered the affective experience scale immediately after listening to each sound stimulus. The order of the stimulus presentation was as follows; “the murmur of a stream,” “a bird’s song,” “the sound of chopping vegetables,” and “the

sound of tofu vendor's flute." After completing the pre-test, the Experimental group underwent the Dohsa-method relaxation for 20 minutes, while the Control group had a 20-minute rest. Then, the Experimental and the Control groups completed a post-test. At the end of the experiment, they made open-ended reports about past memory elicited by each sound stimulus. It took approximately 60 minutes to accomplish the whole experiment.

Results

Comparison of Affective Experience Scale Score

Figure 5 shows a comparison of pre-post scores for "the murmur of the stream" between the Experimental and the Control groups. Although, the Control group revealed no pre-post difference for pleasant score, the Experimental group obtained a higher post-test score. A two-way Analysis of Variance with one between subject factor (Group) and one within subject (Pre-post) showed a significant main effect for Pre-post ($F(1, 28) = 11.743, p < .01$), and a significant Group by Pre-post interaction effect ($F(1, 28) = 18.890, p < .01$). Pair comparisons using Bonferroni revealed a significant pre-post difference for the Experimental group. A significant main effect was not found for Group ($F(1, 34) = .001, n.s.$). Neither the Experimental nor the Control groups showed any pre-post difference for the scores of "painfulness" (Group $F(1, 34) = .163, n.s.$; Pre-post $F(1, 34) = .388, n.s.$; Group by Pre-post $F(1, 34) = .071, n.s.$).

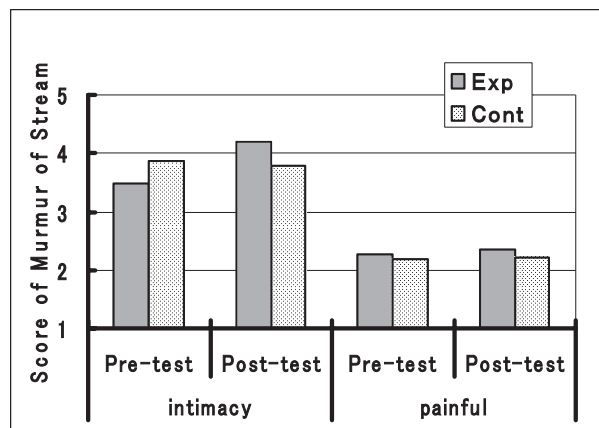


Figure 5
Comparison of pre-post test intimacy and painful scores between Experimental and Control groups for murmur of stream.

As shown in Figure 6, a similar result was found for "a bird's song." A two-way Analysis of Variance revealed a significant main effect for Pre-post ($F(1, 28) = 223.389, p < .01$), and a significant interaction between Group and Pre-post ($F(1, 28) = 21.399, p < .01$). Pair comparisons using Bonferroni revealed a significant pre-post difference for the Experimental group. A significant main effect was not found for Group ($F(1, 34) = .337, n.s.$). Neither the Experimental nor the Control groups showed any pre-post difference for the scores of "painfulness" (Group $F(1, 34) = .267, n.s.$; Pre-post $F(1, 34) = .773, n.s.$; Group by Pre-post $F(1, 34) = .008, n.s.$).

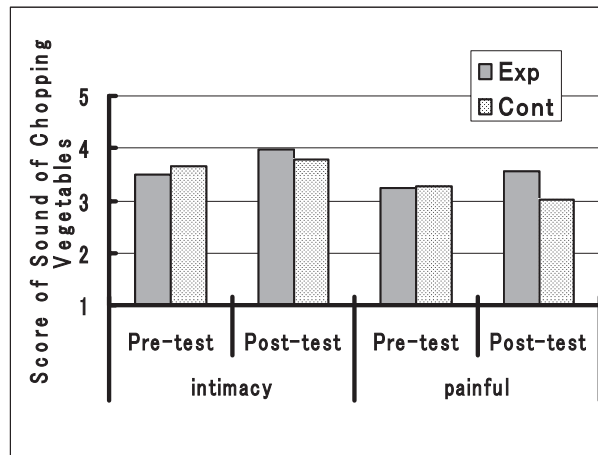


Figure 6
Comparison of pre-post test intimacy and painful scores between Experimental and Control groups for a bird's song.

Figure 7 shows a comparison of the scores for “the sound of chopping vegetables.” The Experimental group obtained an increased post-test score for “intimacy,” whereas no change was found in the Control group. A two-way Analysis of Variance revealed a significant main effect for Pre-post ($F(1, 28) = 11.322, p < .01$), and a significant interaction between Group and Pre-post ($F(1, 28) = 5.132, p < .05$). Pair comparisons using Bonferroni revealed a significant pre-post difference for the Experimental group. A significant main effect was not found for Group ($F(1, 34) = .003, n.s.$). There were no pre-post differences in “painfulness” scores in the Experimental group, while decreased in a post-test score in the Control group. However, a two-way Analysis of Variance could not reach significant (Group $F(1, 34) = 1.063, n.s.$; Pre-post $F(1, 34) = .074, n.s.$; Group by Pre-post $F(1, 34) = 2.989, n.s.$).

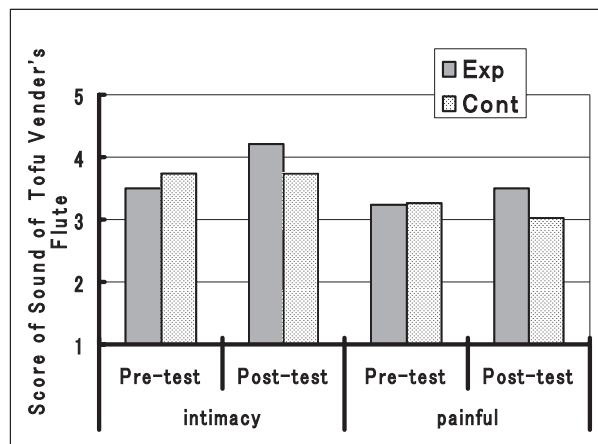


Figure 7
Comparison of pre-post test intimacy and painful scores between Experimental and Control groups for sound of chopping vegetables.

Figure 8 shows a comparison of scores for “the sound of tofu vendor’s flute.” The Experimental group obtained higher post-test “intimacy” score, whereas no distinctive difference was found in the Control group. A two-way Analysis of Variance revealed a significant main effect for Pre-post ($F(1, 28) = 23.389, p < .01$), and a significant interaction effect between Group and Pre-post ($F(1, 28) = 21.399, p < .01$). Pair comparisons using Bonferroni revealed a significant pre-post difference for the Experimental group. However, a significant main effect was not found for Group ($F(1, 34) = .337, n.s.$). Although the post scores for “painfulness” decreased in the Control group, there were no significant effects (Group $F(1, 34) = .844, n.s.$; Pre-post $F(1, 34) = .012, n.s.$; Group by Pre-post $F(1, 34) = 2.403, n.s.$).

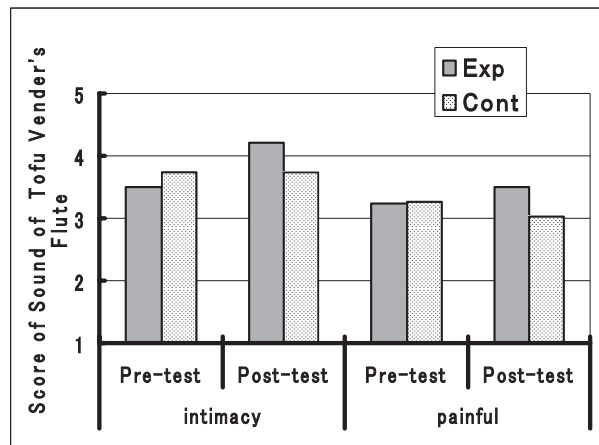


Figure 8

Comparison of pre-post test intimacy and painful scores between Experimental and Control groups for sound of tofu vendors.

General Discussion

In this study, the authors examined the effect of the positive mind-body experiences on enhancing nostalgic affects in undergraduate students. Results of the Experiment 1 was consistent with the findings of the previous studies (Konno & Uesugi, 2003; Konno & Yoshikawa, 2004). The Dohsa-method relaxation produced comfortable mind-body states as reflected on the improvement of “Well Being” and increased EEG pleasantness. The “Well Being” consisted of relief, relaxed, peaceful, comfortable, and pleasant states. According to Yoshida & Iwaki (2000), valence (positive-negative) and arousal (calming-arousing) are thought to represent basic strategic dispositions of the organism, broadly affecting the directions and intensity of all affective behavior. The individual’s feeling condition estimated from slope coefficients in the frontal area is plotted in two psychological dimensions. That is, the horizontal axis expresses “feeling of arousal” and the vertical axis represents “positive-negative mood.” That is, the increased EEG pleasantness represents a positive mood and lower arousal. In this study, there was no distinctive change in the “Liveliness” score. The “Liveliness” comprised those items such as lively, vigorous, energetic, fresh, cheerful. These mood states may correlate with a relative higher arousal rather than a lower arousal state.

As indicated in the previous studies (Konno & Yoshikawa, 2004), the Dohsa-method relaxation

improved the negative mood states reflected on the decrease of “Depression-Anxiety” score, and became comfortable and stable mood states. This may enhance positive cognitive/affective attitudes towards his/her past experience, and facilitate to access a positive aspect of the past experience or memory. The past memory or nostalgic affect contains bipolar aspects of cognitive/affective evaluation such as “good” or “bad,” “happy” or “misery,” or “pleasant” or “painful.” Therefore, in this study, two dimensional affective experience scale (“intimacy” and “painfulness”) was used. Although the Control group revealed no pre-post changes in “intimacy” scores for the sound stimuli, the Experimental group obtained higher scores after receiving the Dohsa-method relaxation. On the contrary, neither the Experimental nor the Control groups revealed any particular pre-post changes in scores for “painfulness.”

Multiple regression analysis revealed the positive relation between Dohsa-method induced positive bodily sensations and positive recall of past memory (Konno & Yoshikawa, 2005a). According to the mood congruency hypothesis (Bower, 1981), these results suggest that the Dohsa-method induced positive mood states would facilitate to access the positive aspects in the past memory, and enhance the positive aspect of nostalgic affect. Konno & Yoshikawa (2005a, 2005b, 2006) carried out the narrative studies of past memory concerning “own childhood,” “my father,” and “my mother” in undergraduate students and elderly people. They found that after receiving the Dohsa-method relaxation, both the students and the elderly people could easily recall and access the positive aspects of the past memory. The Experimental group reported that they could access the positive memory.

According to Kaplan (1987), “painfulness” is not only characterized as sad, but also has a bittersweet characteristic, which produces an air of infatuation and a feeling of elation. Konno and Yoshikawa (2005a, 2006) found that the elderly people could accept the painful memory and integrate it into positive memory through the Dohsa-method relaxation. As suggested by Herz (1990), nostalgia is a very important component in life review, and may lead to discovery of positive aspects of self-image connecting with positive mind-body experiences in the past. The finding obtained in this study suggests the possibility of developing a new version of life review, the “Dohsa-method based life review.”

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