Health Dohsa-hou

Mind-Body Health Enhancement Effects of Interactive and Non-interactive Video Viewing

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ABSTRACT

The conventional support method in clinical Dohsa-hou involves therapists supporting clients' movement face-to-face and using direct body contact. However, due to the COVID-19 pandemic, non-face-to-face and non-contact support have been required for teaching and practicing clinical Dohsa-hou. This study compared the psychological effects of the interactive online method and the non-interactive video-viewing method of Health Dohsa-hou for healthy individuals. We conducted a two-factor analysis of variance with mixed factors. The independent variables were the interactive and non-interactive methods and timing of intervention (pre- and post-intervention), and the dependent variables were the sense of harmony between body and mind and the locus of control. The results showed that the sense of relaxation, the sense of harmony, and the locus of control were significantly enhanced in both the interactive and the non-interactive method; however, the interactive online method achieved further enhancement of the sense of relaxation and the sense of harmony between body and mind. The interactive online Dohsa-hou method would make participants more actively engage in Dohsa-hou, thereby enabling a more realistic Dohsa-hou experience.

Keywords: Health enhancement of body and mind, interactive online Dohsa-hou, non-interactive video-viewing Dohsa-hou, Health Dohsa-hou, non-contact Dohsa-hou

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> ***Health Dohsa-hou increases physical function and a sense of security, happiness, and the tendency toward individual internal control.***

Clinical Dohsa-hou is an original Japanese body-oriented psychotherapy created by Gosaku Naruse. Naruse focused on Dohsa as a phenomenon that can be treated scientifically as a true unity of body and mind. In clinical Dohsa-hou, awkwardness and excessive tension that appear in the performance of movements are regarded as the person's efforts toward psychological adaptation. In the process of accomplishing the Dohsa tasks so that the client can accomplishes tasks to perform movements smoothly with the help of the therapist, the client's

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psychological adjustment improves. In addition to Dohsa-hou as psychotherapy, clinical Dohsa-hou includes Health Dohsa-hou for the maintenance and enhancement of general mental and physical health. Health Dohsa-hou increases both physical and mental health that differs from those of gymnastics. For example, Adachi (2013) reported that the Health Dohsa-hou group showed significantly improved standing balance and ADL, reduced anxiety, enhanced tendency toward internal control, and increased subjective sense of well-being, compared to the radio calisthenics group. Therefore, the continuous implementation of Health Dohsa-hou increases physical function and a sense of security, happiness, and the tendency toward individual internal control.

Health Dohsa-hou therapists have conventionally assisted clients by placing their hands on clients' bodies and helping them confront their movement patterns and change them consciously and unconsciously. However, following COVID-19, online Health Dohsa-hou is beginning to be used in a non-contact manner. Kamikura & Mashiko (2022a) examined the effectiveness of self-care Health Dohsa-hou in implementation methods for healthy individuals. Health Dohsa-hou as self-care is conducted through the therapist's instruction, advice, and feedback for healthy people, and it can be performed without the therapist's touch. This study implemented the group face-to-face Dohsa-hou (N = 28), and the group online Dohsa-hou (N = 17) via a video platform for young adults in a single session for 60 minutes. Subsequently, they compared the effects of stress reactions, the sense of authenticity, and the sense of harmony between body and mind. Consequently, both methods were equally effective in reducing stress reactions, and in increasing the sense of authenticity and harmony between body and mind. Furthermore, the online Dohsa-hou showed larger effect sizes in the sense of physical stability and authenticity than that of the face-to-face Dohsa-hou. The online Dohsa-hou would increase the effects using visual information and deepening immersions. Self-care Dohsa-hou would be helpful for young adults because they could conduct Dohsa tasks without the therapist's physical assistance, and enhance healthy mind-body harmony. The result suggests the unique effects of online Health Dohsa-hou.

While during the pandemic it is preferable to utilize Health Dohsa-hou without a therapist's touch, empirical investigation is underway. In the future, to utilize Health Dohsa-hou video distribution, it is important to explore the effects on the mind and body of the bidirectional online Health Dohsa-hou (in which the therapist and participants interact in real-time) and the unidirectional Health Dohsa-hou (in which participants watch a video and engage in Health Dohsa-hou). In addition, it is desirable to examine the effects based on the situation and environment of conducting Health Dohsa-hou. Therefore, this study explores the effect of the interactive online method and the non-interactive video-viewing method of Health Dohsa-hou for healthy people on the sense of harmony between body and mind and the locus of control.

In this study, we defined the interactive online Health Dohsa-hou as a method in which a therapist shows a model of performing Dohsa tasks related to psychological and physical health via a video platform. Subsequently, another therapist provides support while watching the participants' efforts on a personal computer (PC) and gives instructions, advice, and feedback on their performance in the Dohsa tasks. In addition, we defined the non-interactive video-viewing Health Dohsa-hou as a method whereby participants watch a video in which a therapist shows a model performing Dohsa tasks, and then individually engage in Dohsa tasks based on recorded instructions, advice, and feedback.

Method

Participants

The interactive online Health Dohsa-hou group included Japanese undergraduate students, graduate students, and working adults who voluntarily participated in a workshop organized by the authors at the Congress of the Japanese Psychological Association. We selected 19 participants (5 males and 14 females; mean age 39.37 years, SD = 3.22) who had no experience with Health Dohsa-hou for analysis. The majority of participants had never met the authors.

The non-interactive video-viewing Health Dohsa-hou group consisted of vocational school students, including those with previous work experience. None of the participants had any previous training in Health Dohsa-hou. We analyzed the data of the 34 participants (2 males and 32 females, mean age

25.85 years, *SD* = 1.53) who consented to the questionnaire survey and provided complete responses. The participants were attending a lecture on psychology given by one of the authors, and they voluntarily participated in the psychometric scale. In addition, the video viewing was conducted as part of the lecture.

Procedures

In October 2020, we conducted an online Health Dohsa-hou program (20-minute lecture, 40-minute practice) for the interactive online Health Dohsa-hou group (the online group) using Zoom, with each participant connecting to a PC from their own home. Lecturer A (45 years of clinical experience, a certified clinical Dohsa-hou instructor by the Association of Japanese Clinical Dohsalogy, a clinical psychologist from the Foundation of the Japanese Certification Board for Clinical Psychologists, and a certified public psychologist) and Lecturer B (14 years of clinical experience, a certified clinical Dohsa-hou therapist by the Association of Japanese Clinical Dohsalogy, a clinical psychologist, and a certified public psychologist) led the lecture and skills practice.

During the lecture, Lecturer B presented slides and explained the clinical Dohsa-hou and movements. Lecturer A then explained chronic tension and stiffness in the neck and other parts of the body, and posture in the bending direction. In the practical exercise, Instructor A explained the procedures of the Dohsa tasks while showing pictures, and explained the purpose of each Dohsa task. Subsequently, they presented a model of the Dohsa tasks using the spotlight function of Zoom with the image fixed. The Dohsa tasks and their objectives were as follows and these tasks should be done slowly:

1. *Shoulder raising*: to notice tension and experience a sense of relaxation.
2. *Arm raising*: to notice the deviation from a certain course of arm raising and lowering, to face oneself, and to enhance the sense of effort in the operation itself while correcting it, and to elicit active effort.
3. *Bending forward at the waist*: to notice tension, resolve it, and experience a sense of relaxation.
4. *Bending forward using the waist, then raise up, body is sitting up straight*. These steps should be done slowly. Then, sit firmly as if you were stabbing the seat of the chair using your tailbone. The goal is to activate self-confronting internal psychological activity and then, activate an externally oriented self-activity that can adapt to the external environment (e.g., gravity).

Subsequently, instructor B performed each Dohsa task with the participants. Ensuring not to cause any discomfort after the exercises, she checked for physical discomfort, explained that muscle pain might occur if they overexerted themselves, and told them, "Unlike exercise, it is not about how much you can move, but about how your body (in Health Dohsa-hou, the body that is active in unison with the mental activity) feels. Let's move slowly and deliberately." Instructor B conducted interactive interventions by providing advice and feedback to participants on the accompanying tensions generally likely to occur. They could view pictures of themselves engaging in the Dohsa tasks on a PC screen.

The purpose of the assistance was to activate their self-activity of intention and effort to accomplish the movement. When instructor B observed them using excessive force, she advised them to notice their self-consciousness and adjust it: "If you are too tight, you are pushing yourself too hard, so let's lower your shoulders a little more," and "Shall we wait for a little while?" In addition, she encouraged them to search for tension by saying, "Are you tense in your arms, back, and lower back?" and "Let's relax a little." In addition, while observing their overall effort, she encouraged them to check their movements and self-adjust inappropriate movements that were not aligned with the task movements. She gave feedback such as "Yes, that is good" when they performed the appropriate movements. Following each Dohsa task, she instructed them to focus on their physical and mental state and to feel their sensation: "Let's savor how your body feels now for a moment."

The non-interactive video-viewing Health Dohsa-hou group (the video-viewing group) participated in a video program of teaching material (20 minutes of lecture and 40 minutes of practical training, excluding the pictures of the participants in the interactive online Health Dohsa-hou group) in November 2020. They watched the videos in the same order and time as the online group, and worked on the Dohsa tasks individually based on the movement, instructions, advice, and feedback provided by the instructors in the video.

Materials

We administered the following psychometric scales for the online group using Google Forms via the internet, and for the video-viewing group in print form, before and after (pre- and post-) Health Dohsa-hou experiences.

The shortened version of the sense of harmony between body and mind scale (S-SHS, Kamikura & Mashiko, 2022b)

To measure the effects of the harmonizing of body-mind on both physical and psychological health, we administered a 16-item version of the original version of the S-SHS (Kamikura, 2021), which has 32 items. The S-SHS has five factors: self-existence of mind and body (e.g., "I am keenly aware of my own existence"), relaxation of mind and body (e.g., "I feel carefree and cheerful"), balance of mind and body (e.g., "I think too much before doing something"; reversed item), sense of independence (e.g., "I can work through difficult situations without giving up") and sense of physical stability (e.g., "My body and posture are firmly set"). Each was rated on a 4-point scale from 1 (not applicable) to 4 (applicable). The higher the score, the greater the level of body-mind integration.

The locus of control scale (Kanbara et al., 1982; LOC)

We administered the LOC as an index of activation of self-activation, measuring the locus of control over general matters as internal or external. The scale consists of 18 items, including "Do you think you make your own decisions about your life?" Each was rated on a 4-point scale from 1 ("disagree") to 4 ("agree"). The higher the score, the greater the degree of internal control.

Ethical considerations

Procedures and policies to manage confidential information in the surveys were approved by the ethics committee of the Hokkaido University of Education in Sapporo, Japan (approval number: Hokkyodai 2020091002). Prior to the workshop, we obtained approval from the secretariat of the Japanese Psychological Association to conduct the study on the workshop participants. We explained the study to participants and received informed consent.

Results

Using HAD16 (Shimizu, 2016), we conducted ANOVA for a mixed design with groups (intervention method) and time (intervention period) as independent variables and S-SHS and LOC as dependent variables. The results showed the significance of the main effect of time in LOC ($F[1, 51] = 7.56$, $p < .01$), and that it was significantly higher in post than in pre. The main effect of time was significant for relaxation of mind and body and balance of mind and body in S-SHS (in order, $F[1, 51] = 18.32$, $p < .001$; $F[1, 51] = 39.81$, $p < .001$), and the interactive effect was also significant (in order, $F[1, 51] = 4.79$, $p < .05$; $F[1, 51] = 8.50$, $p < .01$). Simple main effect tests highlighted that the online group scored significantly higher in post than in pre for both relaxation of mind and body and balance of mind and body, with significantly larger effect sizes (in that order, $F[1, 18] = 8.77$, $p < .001$, $\eta^2_p = .33$; $F[1, 18] = 21.96$, $p < .001$, $\eta^2_p = .55$). However, the video-viewing group also scored significantly higher in post than in pre for both relaxation of mind and body and balance of body and mind, with a larger effect size. However, the effect size was lower than in the online group (in order, $F[1, 33] = 5.75$, $p < .05$, $\eta^2_p = .15$; $F[1, 33] = 11.13$, $p < .01$, $\eta^2_p = .25$; Table 1).

Discussion

We administered Health Dohsa-hou to healthy subjects for a single session in the interactive online method and the non-interactive video-viewing method. We compared the effects of each method on the S-SHS and the LOC. The results showed that both methods improved the relaxation and balance of mind and body in the S-SHS. In addition, the score of the LOC in the post-test was increased more than in pre-test. Furthermore, the effect sizes of the online group were larger than that of the video-viewing group for relaxation and balance of mind and body.

These results indicate that both the interactive online method and the non-interactive video-viewing method enhanced the sense of relaxation and balance of mind and body, in addition to the internal control of reinforcement, which means that individuals interpret events as a consequence of their actions, not external factors, despite neither method involving touch. Furthermore, the interactive online method was more effective than the non-interactive video-viewing method in increas-

ing a sense of relaxation and balance of mind and body. Therefore, such an effect is considered to be unique to the online Health Dohsa-hou. If the motivation of the participants in each group affected their experiences of Dohsa-hou, it was expected that the results would differ between groups. However, both groups showed changes in the same factors following an intervention. Therefore, it is unlikely that motivation for participation affected the results.

Regarding the difference in the magnitude of the effect of the support form, the first difference is considered to have been influenced by the difference in the communication form (a real-time and interactive interaction or non-interaction). In the bidirectional online Health Dohsa-hou, the participants shared the same space with the instructor, and she worked on them in real time, although it took place in a group setting, on a PC, and the experience of Health Dohsa-hou would be similar to the conventional face-to-face individual Health Dohsa-hou. That is, the participants could have a realistic experience of Health Dohsa-hou by experiencing their bodies, and working on them proactively based on the instructor's sequential advice and feedback on how to perform the movements. However, in the unidirectional Health Dohsa-hou, the participants might not feel the assistance as much as in the interactive online method, because we used recordings of the instructor's advice and feedback.

Second, the effects on sensory modalities differed depending on the viewing situation. In the online situation, feedback from multiple modalities, auditory and visual, is available. In the online Health Dohsa-hou, Kamikura & Nishiura (2021) reported that visual information can be used as a means of assistance, since participants can self-adjust to more appropriate movements by checking their status on a PC screen. Consequently, in addition to indirect and auditory feedback from the instructor, direct and visual feedback through the participants' appearance on the PC screen is unique to online situations. In other words, the participants' objective perception of their situation and the performance of their actions may have promoted an objective and realistic-looking experience rather than a video-viewing Dohsa-hou experience, and promoted the experience of self-regulating their actions and the anxiety and tension that had arisen in them, aiming at the desired action.

Third, there were differences in the environment performing Health Dohsa-hou and the accompanying allocation of attention. The online group participated from each room, whereas the video-viewing group participated in a space shared with others. Kamikura & Mashiko (2022a) compared the effects of group styles, such as face-to-face and online Health Dohsa-hou with individual PC connections. As a result, the online Health Dohsa-hou improved the sense of physical stability and authenticity, although both methods were conducted in an interactive manner. Therefore, this study suggested that the bidirectional online Health Dohsa-hou would easily foster one-on-one feelings with the instructor, and the participants could relax and concentrate on their sense of body without worrying about judgment from others or comparison with others, because they did it alone. In contrast, the unidirectional Health Dohsa-hou was the unidirectional approach from the instructor in the video. Furthermore, most of their attention was allocated to the behavior and performance of others; thus they would be prone to aim at achieving the movement. Hence, it would have been difficult for them to experience the Dohsa's process of "intention—making efforts—achievement of the movement (Naruse, 2014)", while concentrating on their senses, and intending and moving their body carefully.

These factors in the bidirectional online Health Dohsa-hou would promote the Dohsa's experiences, such as physical and mental sensations, objective and reality-examination, and self-regulation of movements, and lead to greater harmony between body and mind and the sense of relaxation and balance of body and mind. This study showed that even a non-contact Health Dohsa-hou is useful for promoting physical and mental health. These findings are significant as a resource for the application of non-contact Health Dohsa-hou in the COVID-19 pandemic and for the future use of video distribution.

However, there were no significant differences in the other factors of the S-SHS. It is possible that the healthy subjects had a certain degree of physical and mental self-presence, and continuous intervention is necessary to improve their sense of independence and physical stability. Adachi (2013) reported that the LOC increased due to the continuous implementation of Health Dohsa-hou. Whereas, in this study, the LOC increased even af-

ter a single intervention using the online or video-viewing method, hence, Health Dohsa-hou would have immediate effects for healthy people. Therefore, in the future, it is advised to further examine on the effects of the bidirectional online and the unidirectional video-viewing method in Health Dohsa-hou by controlling for subjects' age, gender, and recruitment style, and by ensuring the unidirectional video-viewing method is applied on an individual basis.

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Appendix

Table 1. *Trends in each factor score in intervention method and results of ANOVA and effect size*

Psycho-logical Scale	Inter-vention method	Pre		Post		Intervention method		Time (intervention period)		Interaction		Simple main effect (time)
						F value	η^2_p	*F* value	η^2_p	*F* value	η^2_p	
		M	*SD*	*M*	*SD*	Dunnett		Dunnett				
S-SHS												
Self-existence of mind and body	①	3.29	0.57	3.25	0.57	2.90	0.05	0.17	0.00	0.08	0.00	
	②	3.01	0.55	3.01	0.58							
Relaxation of mind and body	①	2.11	0.60	2.77	0.81	1.11	0.02	18.32 ***	0.26	4.79 *	0.09	① Pre < Post **
	②	2.49	0.53	2.71	0.65							② Pre < Post *
Balance of mind and body	①	2.40	0.66	3.12	0.66	0.37	0.00	39.81 ***	0.44	8.50 **	0.14	① Pre < Post ***
	②	2.52	0.72	2.78	0.71							② Pre < Post **
Self of independence	①	2.79	0.70	2.65	0.84	0.15	0.00	0.06	0.00	1.92	0.04	
	②	2.74	0.56	2.83	0.59							
Self of physical stability	①	3.09	0.62	3.02	0.94	1.37	0.03	0.59	0.11	2.12	0.04	
	②	2.75	0.67	2.97	0.54							
LOC	①	2.58	0.39	2.67	0.41	1.07	0.02	7.56 **	0.13	1.19	0.02	
	②	2.74	0.47	2.78	0.52							

Note: ① – online group; ② – video veiwing group

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