

Application of Dohsa-hou Therapy to Develop Social Interaction Skills in Autistic Vietnamese Children

Dung My Le¹, Phuong Thi Hang Nguyen^{1*}, Anh Thi Tram Nguyen¹ and Thu Thi Kim Le²

¹*Faculty of Psychology and Education, The University of Danang - University of Science and Education, Danang City, Vietnam*

²*Center for Special Education Research and Development, Da Nang City, Viet Nam*

KEYWORDS Autism. Dohsa-hou Therapy. Case Analysis. Special Exercises. Children

ABSTRACT Children with developmental problems such as autism, Asperger's syndrome, Rett syndrome, language, cognition, and behaviour issues are referred to as "developmental diseases". To support and educate children with developmental disorders and autism, a variety of methods are available, including ABA (Applied Behaviour Analysis), RDI (Relationship Development Intervention), TEACCH (Division for the Treatment and Education of Autistic and Children with Communication Handicaps), and PECS (Patient-Centred Early Childhood Services). When it comes to supporting youngsters in Da Nang, Vietnam, the researchers have chosen Dohsa-hou therapy (Japan), which has shown promising outcomes. In addition to assisting children in being safe and courteous, the Dohsa-hou approach also assists both children and teachers (Dohsa-hou practitioners) feel genuinely calm. Case study, observation, and assessment by a group of three special exercises before and after Dohsa-hou therapy were used to demonstrate that this is an effective way for assisting children with developmental difficulties in Vietnam.

INTRODUCTION

Incidence rates for autism recorded vary across countries and groups. Researchers at the Johns Hopkins Bloomberg School of Public Health contributed to the United States. The Centre for Disease Control and Prevention report finds the prevalence of autism spectrum disorder (ASD) among 11 surveillance sites as 1 in 54 among children aged eight years in 2016 (or 1.85%). This is a ten percent increase from the most recent report two years ago when it was 1 in 59, the highest prevalence since the CDC began tracking ASD in 2000, 1 in 34 boys identified with autism and 1 in 144 girls identified with autism (Johns Hopkins Bloomberg School of Public Health 2020). There are currently no accurate statistics on autism rates in the community in Vietnam. According to records, the number of children with autism has been on an increase, and autism is a burden on the family and society. In Vietnam, according to the system outline of the Ministry of Labour, Invalids and Social Affairs, Vietnam has about 200,000 people with autism. The number of children diagnosed and treated is in-

creasing. Many researchers have found supportive measures for children with autism to enhance their language, movement, interaction-communication development, perception, behaviour, and emotion (Vietnam Child Protection Fund 2019). Children and adults with autism spectrum need help in learning how to act in different types of social situations. They often desire to interact with others but may not know how to engage friends or may be overwhelmed by the idea of new experiences. So, building up social skills with practice can help enhance participation in the community and support outcomes like happiness and friendships, to help enhance opportunities to be part of the community.

There are many methods to support and educate children in developmental disorders and autism, such as ABA (Applied Behaviour Analysis), RDI (Relationship Development Intervention), TEACCH (Division of Treatment and Education of Autistic and Children with Communication Handicaps), and PECS (picture exchange communication system). These methods aim to increase cognitive, behavioural, and life responses for autistic people.

In researching and finding supportive therapies for children, the researchers have been familiarised with the Dohsa-hou method for ten years (from 2009 to present) from University Aichigakuin, Japan. Through training courses of Japanese ex-

*Address for correspondence:

Phuong Thi Hang Nguyen
University of Science and Education,
The University of Da Nang,
Danang City, Vietnam
E-mail: nthphuong@ued.udn.vn

perts on Dohsa-hou therapy, the researchers have developed research on the effectiveness of this method on children with autism. The results have shown the usefulness of the therapy. The theoretical and practical results are described in detail in the following section.

In 1967, Naruse gave a new viewpoint to the disabilities of motor action in cerebral palsy children (Dadkhah 1997). Naruse made his notion based on the fact that although the disabilities in cerebral palsy have resulted from a physiological dysfunction, these may be influenced by their psychological activities. Naruse devised a psycho-rehabilitative technique for these subjects, called Dohsa-hou.

So, in the beginning, Dohsa-hou aimed to improve the motor difficulty of cerebral palsied children (Naruse 1967). Later it applied to autistic and hyperactive children (Harizuka 1986). It stabilised their emotion, changed their daily life pattern of behaviour, and also improved their postures. Schizophrenic patients can benefit from Dohsa-hou, as their actions become vitalised to walk and constant movement (Tsuru 1982).

Ono (1983) and Konno (1978, 1993) applied Dohsa-hou to autistic and hyperactive children. The method improved their interaction and eye contact with others. Kamohara (1980) and Tsuru (1982) applied Dohsa-hou to schizophrenic patients and found that their consciousness improved and their body posture changed. Konno et al. (1990) found that perception of self and others improved through muscular relaxation and postural training by Dohsa-hou. Harizuka (1988, 1992) applied the method to cerebral palsy children. The treatment was effective. It was important for the subjects who could not keep their sitting posture due to the technique. Others indicated that as the sense of muscular relaxation and stability in standing posture increased, positive changes in external perception occurred (Hatakeyama et al. 1994).

Dadkhah (1996, 1997) applied Dohsa-hou to disabled sportspeople and disabled students in elementary school in Iran. As a result of training, their public aspect of their body-consciousness changed the most by experiencing a new model of motor action, which was different from the one they experienced before the training, they gained a better balance on their body while walking and running, and they improved their sports record time. The results indicated that this training is a

valuable method for helping disabled sportspeople improve their body-consciousness, gain control over both their bodies and minds, and in addition, that it may help make training programs for them. Huang et al. (2018) reported that self-control development followed a quadratic pattern, increasing and peaking in ten-year-old children, and then decreasing in twelve-year-old children.

In the field of sports in Japan, from Rome Olympics to Tokyo Olympics, some Dohsa-hou techniques such as relaxation, mental rehearsal and mental training was introduced to champion athletes for treatment of stage flight and training for game strengthening by Naruse (1975).

There have been several studies on the effectiveness of using Dohsa-hou to rehabilitate autistic people. Research by Konno et al. (1990) showed that Dohsa-hou helps autistic children calm down and communicate a lot easier. Several other studies showed that Dohsa-hou could help children behave more friendly and dynamically (Oda and Tani 1994; Sasagawa et al. 2000). For children with language disabilities, Dohsa-hou can help them to start talking and communicating using simple words (Koga and Nakata 2003; Morisaki 2002; Yamashita 1986).

In Mohammadkhani's (2012) study on the effectiveness of Dohsa-hou therapy in improving social ability and shaping behaviour in autistic children, the results showed that eight exercises of Dohsa-hou can enhance children's social skills and reduce repetitive body movements in them.

A case study of Yoshitaka Konno on the process of attention making and communication in a 3-and-a-half-year-old autistic girl through a Dohsa-hou method called *toke'au taiken* consists of 6 sessions taking place in 18 weeks. Each 50-minute session included practising *toke'au taiken* and providing consultation for her parents. As the child's emotional stability improved and the mother's depression decreased, the exchange of attention between the child and the mother has increased.

A verbal tool is used only for supplementary help (Naruse 1992). Ono (1983) and Konno (1978, 1993) applied Dohsa-hou to autistic and hyperactive children, inducing personal interaction and eye contact with others. Kamohara (1980) and Tsuru (1985) applied Dohsa-hou to schizophrenic patients and found that their consciousness improved and their body posture changed. Harizuka (1992) applied the method to cerebral palsy children, effec-

tively teaching the importance of subjects keeping their sitting-posture by themselves. Dadkhah (1996) applied Dohsa-hou to disabled sportspeople, which sharpened the public aspects of their body-consciousness, improving their sports performances. The application of this method was reported in older people with psychotic problems (Nakajima 1987). Application of the method to the aged people leads to a happy mood and social integration, and as a result, they can control their body co-relation better. Dohsa-hou adjusts the body consciousness of a person and increases the awareness of a person to themselves and others by relaxation of body and mind (Dadkhah 1996).

By applying Dohsa-hou training to some aged people, the depression level was examined with changes affected by Dohsa-hou. If Dohsa-hou can decrease the depression level in aged people, their life expectancy, the ability of problem-solving, social interaction, and self-confidence will increase.

Morisaki (2005) used Dohsa-hou for treating children with hyperactivity disorder and found perception of self and others, emotional stability, and change in the behavioural plan of life. Nguyen-Thi et al. (2020) discovered a link between adolescent loneliness, self-esteem, and dishonesty. Rigikouteh et al. (2013) used Dohsa-hou to decrease depression, fatigue, anxiety, and stress and increase the quality of life. They found that Dohsa-hou effectively decreases depression, fatigue, anxiety, and stress and increases the quality of life. The primary purpose of this study is to examine the effect of Dohsa-hou on the movement performance and self-efficiency of patients with ADHD.

Mohammadkhani (2012), in his study “The effect of Dohsa-hou on the improvement of social skills and stereotype behaviours”, found that eight sessions of Dohsa-hou could effectively increase the social skills of children and decrease stereotype behaviours in them. Yazdkhasti and Shahbazi (2012) used Dohsa-hou for treating patients with ADHD. They found that the use of Dohsa-hou is effective in decreasing ADHD. As a result, children’s social skills were improved, and their symptoms were decreased considerably.

The effect of Dohsa-hou therapy on autistic children has also been verified by the research of Naderi et al. (2014). In this study, the team performed on six high-functioning autistic children randomly selected. The children were assessed input and output using two questionnaires, namely, “Autism screening questionnaire” and “Questionnaire on mental theory”. Areas of study include social interaction,

language and speech problems, and behavioural issues. After four weeks of therapy (one hour/week), the results showed a significant difference in the subjects before and after the treatment. Thus, Dohsa-hou therapy in highly functional autistic children is effective.

Tamandani et al. (2015) studied the psychological rehabilitation impact through Dohsa-hou method on motion performance and peers relationship self-efficacy of children suffering from attention deficit hyperactivity disorder (ADHD). The results of analysis of MANCOVA showed that psychological rehabilitation through the Dohsa-hou method had caused increased emotional performance and self-efficiency promotion of children suffering from (ADHD) in relationship with their peers ($p \leq .01$).

Chervenkova (2017) wrote that “Life is movement, movement is life”, and so his research called, “Dohsa-hou Therapy – Where Body Meets Soul”, makes the movement where body and mind intersect. Kamali et al. (2018) studied the comparison of effectiveness of Dohsa hou and the Alexander Technique on happiness, social adjustment, hope, mental health, and quality of life in patients with Parkinson’s disease. The results show that between the experimental and control groups, there was no significant difference in terms of gender, age, education and marriage ($P > .05$). However, the rehabilitation program of Dohsa-hou led to decreased perceived stress and meta-worry and significantly increased health-related quality of life in haemodialysis patients ($p < .05$). Kaneko et al. (2019) showed that after this present author started implementing Dohsa-hou therapy, body psychotherapy initially developed in Japan, the total number of therapy sessions increased remarkably.

Objectives of the Study

During the practice of Dohsa-hou movements, the researchers will assess and monitor the emotional state, the activeness, the flexibility, the social interaction stability, and the social interaction stability of children with autism spectrum disorders.

METHODOLOGY

Measure

The researchers decided to use clinical observation techniques during the evaluation process using checklists, observation analysis during the

implementation of the Dohsa-hou technique, behavioural analysis via video. The researchers measured the progression in 3 stages as follows.

- ◆ **Stage 1:** Listening and feeling searching, corresponding to lesson 1: The “Crawling Crab” game.
- ◆ **Stage 2:** Waiting and reacting searching, corresponding to lesson 2: The “Chi-chi Chanh-chanh” game.
- ◆ **Stage 3:** Response and continuation, corresponding to lesson 3: The “Keo-cua Lua-xe” game.

Stage 1: The “Crawling Crab” Game

Implementation requirements for this game include scoring and dividing marks into order (-)/(+).

- ◆ **Emotion:** Evaluate three times per week and ensure that 4/5 of total reaction is repeated during the test in 5-minute cycles (rhythm), and record the final result once a week with eighty percent guarantee.
- ◆ **Score 1:** When the teacher calls the child’s name, and touches the child with a gentle crawling movement, the child is disinterested, has no emotional response, or has negative emotions (fear, anger, etc.) and displays mysterious behaviour.
- ◆ **Score 2:** When the teacher calls the child’s name and touches the child with a slight crawling movement, the child is disinterested or has negative emotions but reacts to the teacher.
- ◆ **Score 3:** When the teacher calls the child’s name and touches them with a gentle crawling movement, the child reacts to identify the impact and shows a lasting interest.
- ◆ **Score 4:** When the teacher calls the child’s name, and touches them with a gentle crawling movement, the child has a reaction to identify the impact, shows prolonged attention, and has a positive interest in the face.
- ◆ **Score 5:** When the teacher calls the child’s name, and touches them with a gentle crawling movement, the child has a reaction to identify the impact, and shows a lasting interest and expresses emotions on the face like smiling.
- ◆ **Response:** Assess three days/week and ensure 4/5 expression of reaction is repeat-

ed in the test situation, and record the results once a week to ensure greater than or equal to eighty percent.

- ◆ **Score 1:** When the examiner calls the child’s name, touches them, and says, “Let’s play Crawling Crab game”, the child is sitting still and does not care.
- ◆ **Score 2:** When the examiner calls the child’s name, touches them, and says, “Let’s play Crawling Crab game”, the child looks uncomfortable.
- ◆ **Score 3:** When the examiner calls the child’s name, touches them, and says, “Let’s play Crawling Crab game”, the child seems to accept but is not comfortable.
- ◆ **Score 4:** When the examiner calls the child’s name, touches them, and says, “Let’s play Crawling Crab game”, the child seems interested but does not wait for the game to continue.
- ◆ **Score 5:** When the examiner calls the child’s name, touches them, and says, “Let’s play Crawling Crab game”, the child seems interested, waiting for the game to continue.
- ◆ **Rhythm:** Assess three days/week and ensure that 3/5 of total reaction is repeated during the test in 5-minute cycles, and record the final results once a week with guaranteed greater than or equal to eighty percent.
- ◆ **Score 1:** No cooperation, as the child interacts erratically (play or not to play unpredictably)
- ◆ **Score 2:** Normal interaction-cooperation takes place steadily in a short time, about 10 seconds
- ◆ **Score 3:** Normal interaction-cooperation is stable with an assessment rate of 50%.
- ◆ **Score 4:** Normal interaction, that is, stable with an assessment rate of 70%.
- ◆ **Score 5:** Normal interaction, that is, stable with an assessment rate of 80% (4/5 of total expression)
- ◆ **Flexibility:** Assess 5 times/week, ensuring 3/5 of reaction expression is repeated in the test duration, and recording the final results once a week, ensuring greater than or equal to seventy percent.

This activity requires testers to prepare the environment, human resources and interaction methods appropriate to each test score level.

- ◆ *Score 1:* Stable interaction in the daily practice environment
- ◆ *Score 2:* Stable interaction in the daily practice environment with unusual impacts from the frequent contact person.
- ◆ *Score 3:* Stable interaction in a familiar practice environment with familiar impacts from infrequently meeting a person.
- ◆ *Score 4:* Stable interaction in the daily familiar practice environment with familiar impacts from strangers.
- ◆ *Score 5:* Stable interaction in an unfamiliar environment and with familiar impacts from strangers.

Stage 2: The “Chi-Chi Chanh-Chanh” Game

Implementation requirements for this game include scoring and dividing marks into order (-)/(+).

- ◆ *Emotion:* Evaluate three times/week and ensure that 3/5 of total reaction is repeated during the test in 5-minute cycles. Record results once a week with guaranteed greater than or equal to seventy percent.
- ◆ *Score 1:* When the examiner is calling the child’s name, making movements of “Chi-chi Chanh-chanh” game with the child, the examiner tries to touch the child with the game action, but the child is disinterested or has negative emotions, and he has no reaction with the impact from the examiner.
- ◆ *Score 2:* When the examiner is calling the child’s name, making movements of “Chi-chi Chanh-chanh” game with the child, the examiner tries to touch the child with the game action, the child disinterested, or does not have a positive emotion, but has reactions that identify the impact of the examiner.
- ◆ *Score 3:* When the examiner is calling the child’s name, making movements of the “Chi-chi Chanh-chanh” game with the child, the examiner tries to touch the child with the game action, the child reacts that they can identify the activities, and shows prolong interest.
- ◆ *Score 4:* When the examiner is calling the child’s name, making movements of “Chi-chi Chanh-chanh” game with the child, the examiner tries to touch the child with the game action, the child has a reaction that identifies the activities, shows prolong interest, and has positive emotions on their face.
- ◆ *Score 5:* When the examiner is calling the child’s name, making movements of “Chi-chi Chanh-chanh” game with the child, the examiner tries to touch the child with the game action, the child has a reaction that identifies the activities, shows prolong interest, and has positive emotions on the face by laughing in response.
- ◆ *Response:* Perform the assessment three times/week and ensure that 3/5 of total reaction is repeated during the test. Record the results once a week and ensure greater than or equal to eighty percent.
- ◆ *Score 1:* When the examiner calls the child’s name, touches the child and says, “Let’s play the Chi-chi Chanh-chanh game!” the child seems to feel uncomfortable.
- ◆ *Score 2:* When the examiner calls the child’s name, touches the child and says, “Let’s play the Chi-chi Chanh-chanh game!” the child seems to accept the interaction but is not comfortable.
- ◆ *Score 3:* When the examiner calls the child’s name, touches the child and says, “Let’s play the Chi-chi Chanh-chanh game!” the child seems interested but not waiting for the game to continue.
- ◆ *Score 4:* When the examiner calls the child’s name, touches the child and says, “Let’s play the Chi-chi Chanh-chanh game!” the child seems to care about the interaction and waiting for the game to continue.
- ◆ *Score 5:* When the examiner calls the child’s name, touches the child and says, “Let’s play the Chi-chi Chanh-chanh game!” the child is interested and joins in happily.
- ◆ *Rhythm:* Perform the assessment three times/week and ensure that 3/5 of total reaction is repeated during the test in 5-minute cycles. Record the results once a week with guaranteed greater than or equal to eighty percent.
- ◆ *Score 1:* Normal interaction, that is, unstable.
- ◆ *Score 2:* Normal interaction, that is, stable with an assessment Rhythm of fifty percent.
- ◆ *Score 3:* Normal interaction, that is, stable with an assessment Rhythm of seventy percent.

- ◆ *Score 4*: Normal interaction, that is, stable with an assessment Rhythm of eighty percent.
- ◆ *Score 5*: Positive interaction, that is, stable with an assessment Rhythm of fifty percent.
- ◆ *Flexibility*: Perform assessment five times/week, ensuring 3/5 of total reaction is repeated during the test, while recording final results once a week, and ensuring greater than or equal to seventy percent. This activity requires testers to prepare the environment, human resources and interaction methods that are appropriate to each test score level.
- ◆ *Score 1*: Stable interaction in the daily practice environment in an unfamiliar manner from a familiar person.
- ◆ *Score 2*: Stable interaction in the daily practice environment under a familiar interaction manner from an unfamiliar contact person.
- ◆ *Score 3*: Stable interaction in the daily practice environment under familiar interaction manner from strangers.
- ◆ *Score 4*: Stable interaction in a strange environment under a familiar interaction manner with strangers.
- ◆ *Score 5*: Stable interaction in an unfamiliar environment, with strangers, and under an unfamiliar interaction manner.

Stage 3: The “Keo-Cua Lua-Xe” Game

Implementation requirements: Scoring and dividing scores into order (-) / (+).

- ◆ *Emotion*: Evaluate three times/week and ensure that 3/5 of total reaction is repeated during the test in 5-minute cycles. Record results once a week with guaranteed greater than or equal to seventy percent.
- ◆ *Score 1*: When the examiner calls the child’s name, doing the gesture of “Keo-cua Lua-xe”, the child can recognise the tester’s impact, but does not seem interested.
- ◆ *Score 2*: When the examiner calls the child’s name, doing the gesture of “Keo-cua Lua-xe”, the child can recognise the tester’s impact and shows prolonged interest.
- ◆ *Score 3*: When the examiner calls the child’s name, doing the gesture of “Keo-cua Lua-xe”, the child can recognise the tester’s impact, has prolonged interest and shows positive emotion on their face.
- ◆ *Score 4*: When the examiner calls the child’s name, doing the gesture of “Keo-cua Lua-xe”, the child can recognise the tester’s impact, had prolonged interest, and shows positive emotion, and excitedly participates in the game when the tester made the gesture that the game was almost over.
- ◆ *Score 5*: When the examiner calls the child’s name, doing the gesture of “Keo-cua Lua-xe”, the child laughs, waits and seeks to avoid. They feel excited about being in the game.
- ◆ *Response*: Evaluate three times/week and ensure that 3/5 of total reaction is repeated during the test. Record the final results once a week and ensure greater than or equal to eighty percent.
- ◆ *Score 1*: When the examiner calls the child’s name, touches the child, and says, “Let’s play Keo-cua Lua-xe game”, the child seems to accept but feels comfortable.
- ◆ *Score 2*: When the examiner calls the child’s name, touches the child, and says, “Let’s play Keo-cua Lua-xe game”, the child looks interested but does not wait for the game to continue.
- ◆ *Score 3*: When the examiner calls the child’s name, touches the child, and says, “Let’s play Keo-cua Lua-xe game”, the child looks interested, waiting for the game to continue.
- ◆ *Score 4*: When the examiner calls the child’s name, touches the child, and says, “Let’s play Keo-cua Lua-xe game”, the child is interested, and joins in happily when stimulated by the examiner.
- ◆ *Score 5*: When the examiner calls the child’s name, touches the child, and says, “Let’s play Keo-cua Lua-xe game”, the child does the movements of the game while the examiner sits still near the child to wait for 10 seconds.
- ◆ *Rhythm*: Evaluate three times/week and ensure that 3/5 of total reaction is repeated during the test in 5-minute cycles. Record results once a week with guaranteed greater than or equal to eighty percent.
- ◆ *Score 1*: Normal interaction, that is, stable with assessment Rhythm of fifty percent.
- ◆ *Score 2*: Normal interaction, that is, stable with assessment Rhythm of seventy percent.
- ◆ *Score 3*: Normal interaction, that is, stable with assessment Rhythm of eighty percent.
- ◆ *Score 4*: Positive interaction, that is, stable with assessment Rhythm of fifty percent.

- ◆ *Score 5*: Positive interaction, that is, stable with assessment Rhythm of seventy percent.
- ◆ *Flexibility*: Evaluate three times/week and ensure that 3/5 of total reaction is repeated during the test in 5-minute cycles. Record results once a week with guaranteed greater than or equal to seventy percent. This activity requires testers to prepare the environment, human resources and interaction methods that are appropriate to each test score level.
- ◆ *Score 1*: Interacting stably in the practising environment that has familiar stimulators from an unfamiliar person.
- ◆ *Score 2*: Interacting stably in the practising environment that has familiar stimulators from strangers.
- ◆ *Score 3*: Stable interaction in an unfamiliar environment with familiar stimulators but from strangers.
- ◆ *Score 4*: Stable interaction in a strange environment, with familiar stimulators from a familiar person.
- ◆ *Score 5*: Flexible and stable interaction with everybody in different ways, reaching fifty percent of the required interactions.

Specifying Plus/Minus Points

- ◆ 2,2,2,3,3=2+
- ◆ 1,2,1,2,2=2-
- ◆ 2,2,2,2,1=2

Requirements for Testers

- ◆ Pay attention to the emotions and skills of interaction with the child.
- ◆ The objective of the interaction process is to adjust their emotions. They are the tester, not a person who comes to play with the child.

Case Study

Three children with autism (confirmed by the psychiatric hospital) between the ages of 4-7 years, studying at the Centre for Research and Development of Special Education, Da Nang City.

Case 1

- ◆ Child's name: T. L. B. P.
- ◆ Born in: April 13, 2012

- ◆ Type of disability: Autism spectrum disorder
- ◆ Dohsa-hou Assessment: Centre for Research and Development of Special Education
- ◆ Date of approaching Dohsa-hou: January 21, 2019
- ◆ Report date:
- ◆ Input: January 20, 2019
- ◆ Output: March 21, 2019

Psychological Portrait [of the Child]

T. L. B. P. looks very cute, but it is not easy to get close to him. The child has many manifestations of secondary disorders besides primary disorders. The secondary disorder is primarily associated with psychotic depression. His interaction was limited with only two people, namely, his teacher and his mother.

Case 2

- ◆ Child's name: P. N. H.
- ◆ Born in: July 21, 2015
- ◆ Type of disability: Autism spectrum disorder
- ◆ Dohsa-hou Assessment: Centre for Research and Development of Special Education
- ◆ Date of approaching Dohsa-hou: January 21, 2019
- ◆ Report date:
- ◆ Input: January 20, 2019
- ◆ Output: March 21, 2019

Psychological Portrait

P. N. H. is a boy who looks cute and approachable, but it is hard to have genuine positive emotions in his close relationship (very high defences). He is empathetic, especially in his sense of touch (fear of soft materials, ruffled feathers, etc.), and hearing (fear of strange noises, etc.). He expresses positive emotions only with his parents and familiar teachers.

Case 3

- ◆ Child's name: H. B. T.
- ◆ Born in: December 7, 2013
- ◆ Type of disability: Autism spectrum disorder
- ◆ Dohsa-hou Assessment: Centre for Research and Development of Special Education
- ◆ Date of approaching Dohsa-hou: January 21, 2019

- ◆ Report Date:
- ◆ Input: January 20, 2019
- ◆ Output: March 21, 2019

Psychological Portrait

H. B. T. is a boy who is not easy to get along with, and it is not easy to communicate with anyone. His emotions are not stable, as he is usually crying or laughing for no reason. Communication is limited and significantly depends on one person, especially in the tight relationship of a mother and child. He needs to be supported to expand his relationship with other people and be less dependent on certain people.

RESULTS AND DISCUSSION

Case 1

The child has the expression of stress in some areas:

- ◆ Neck is bent to the right, cervical vertebra
- ◆ The right shoulder is higher than the left shoulder, and they are hunched forward.
- ◆ Dorsal is spine bent to the right (look like a shrimp from the back)

Stress Point Assessment

1, 2, 3, 4, 5, 10

The Dohsa-hou Exercises Performed with the Child

- ◆ Shoulder to chest in lying and sitting positions
- ◆ Shoulder and back in a prone position
- ◆ Shoulders: Lift two shoulders
- ◆ Dohsa-hou face

Training Time

The training time is from January to March 2019 (12 times in total, one time per week with training time of 15 minutes as shown in Table 1).

Treatment Results

General Comment

The Initial Evaluation Results

The child's social interaction ability still stops at stage 1, which is seeking listening and feel-

Table 1: Level of social interaction behaviour of the child before and after Dohsa-hou therapy

	Before treatment [point]		After treatment [point]
	Stage 1	Stage 1	Stage 2
<i>Emotion</i>	2	4	2+
<i>Response</i>	2	3+	2+
<i>Rhythm</i>	2	3+	1

ing, specifically with the following expressions (Fig. 1):

- ◆ **Emotion:** When a tester calls the child's name or touches the child with a gentle crawling movement, the child shows disinterested or has negative emotions. However, he seems to be aware of the tester's simulators.
- ◆ **Response:** When the tester calls the child's name, touches the child, and says, "Let's play crab crawling game", the child seems uncomfortable.
- ◆ **Rhythm:** Normal interaction comprises cooperatively and is stable in a short time of 10 seconds.
- ◆ **Flexibility:** Stable interaction in a familiar training environment.

Post-treatment Evaluation

Commenting on the first assessment of the Dohsa-hou, after two months of therapy, which is a total of 8 times (one time/week), the results showed that the child's social interaction behaviour initially had improvement. The child started having emotional stability as well as better quality of interaction. When interacting with teachers, the child has shown signs of listening, feeling and showing signs of waiting and reacting, namely, as follows.

Stage 1: Looking for Listening and Feeling

- ◆ **Emotion:** When the teacher calls out the child's name, and touches him with a gentle crab crawling movement, the child is aware of the simulator, shows his prolonged interest and has a positive feeling on his face.
- ◆ **Response:** When the teacher called out the name, touched the body and said, "Let's play crab crawling game", the child expressed acceptance but was not comfortable.

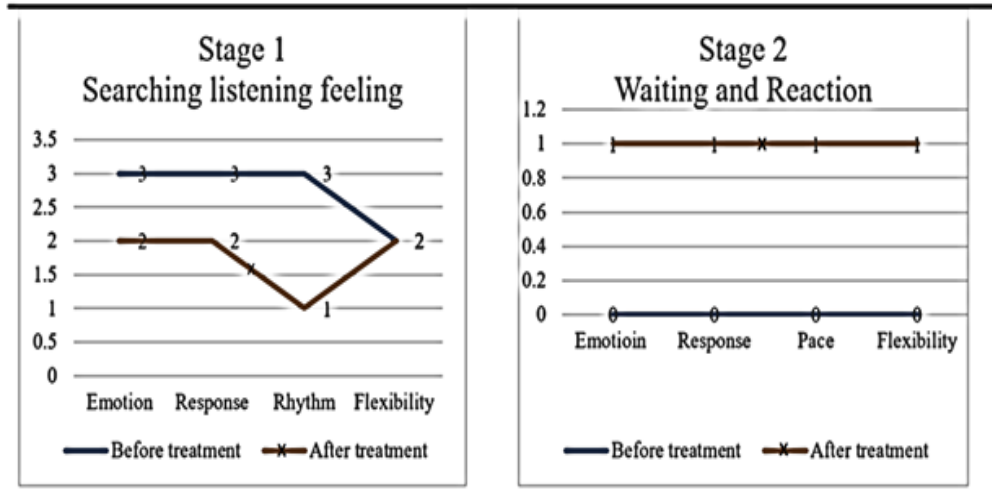


Fig. 1. The child's level of social interaction behaviour before and after Dohsa-hou therapy

- ♦ *Rhythm*: The child usually interacts, that is, cooperates and is stable, with fifty percent of reactions repeated in the test situation.
- ♦ *Flexibility*: The child interacts stably in a training environment with an unusual way of interacting with a familiar person.

Stage 2: Seeking of Waiting and Responding

Emotion: When the teacher calls the child's name, performs movements of the "Chi-chi Chanh-chanh" game with the child, or try to touch the child with the game's action, the child is disinterested or shows a non-positive emotion, but has the reaction of awareness of the tester's stimulation.

- ♦ *Response*: When the teacher calls the name, touches the child and says, "Let's play Chi-chi Chanh-chanh game", the child seems to accept the interaction but seems not comfortable.
- ♦ *Rhythm*: Normal interaction, but not stable.
- ♦ *Flexibility*: Stable interaction in a training environment under familiar stimulators with an infrequent contact person.

Case 2

Stressful Regions Manifestation

- ♦ The shoulder area: the right shoulder is higher than the left shoulder

- ♦ Dorsal region: spine arches to the right
- ♦ Left leg bent to the left, left foot inwards and is smaller than the right one

Stress Point Assessment

3, 4, 5, 6, 7, 8, 10

The Dohsa-hou Exercises Performed

- ♦ Shoulder to chest in lying and sitting positions
- ♦ Shoulders to back in a prone position
- ♦ Groin in a sitting and lying position
- ♦ Pasterns

Training Time

The training time is from January to March 2019 (12 times in total, one per week with training time of 15 minutes, as shown in Table 2).

Treatment Results

General Comment

The Initial Evaluation Results

The child's social interaction ability stops at the end of stage 1, that is, looking for listening and feeling and early of stage 2, that is, searching for

waiting and responding, specifically with the following expressions (Fig. 2).

Stage 1: Search for Listening and Feeling

- ◆ *Emotion*: When a teacher calls a child’s name, touches the child with a gentle crawling movement, the child has a reaction identifying the impact, shows a long-lasting interest, and has

positive, liking emotions expressed in his face.

- ◆ *Response*: When the teacher calls the name, touches, and says “Let’s play crab crawling”, the child seems uncomfortable.
- ◆ *Rhythm*: Normal interaction, that is, cooperation, and stable with a fifty percent assessment rhythm.
- ◆ *Flexibility*: Steady interaction with strangers, for example, therapists who are not teach-

Table 2: Level of social interaction behaviour of the child before and after Dohsa-hou therapy

	Before treatment [point]			After treatment [point]		
	Stage 1	Stage 2	Stage 1	Stage 2	Stage 3	
<i>Emotion</i>	4-	2-	4	3	1	
<i>Response</i>	2-	2+	4	3	1	
<i>Rhythm</i>	3	1	3+	3	1	
<i>Flexibility</i>	4	2+	3	2	1	

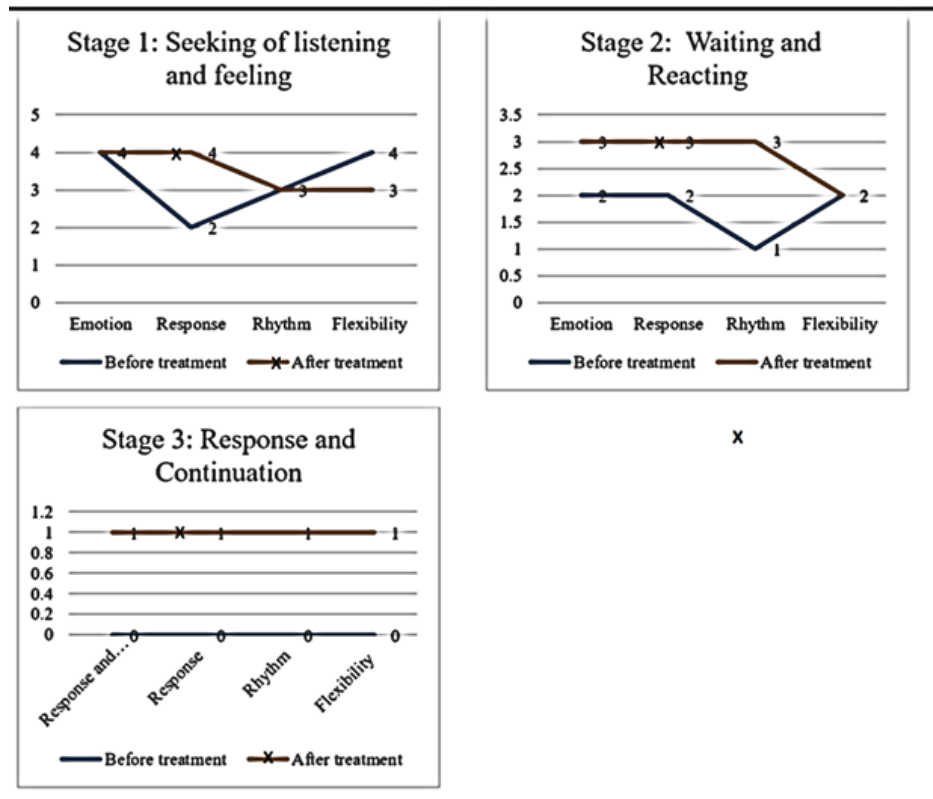


Fig. 2. The level of expression of the child’s social interaction behaviour before and after Dohsa-hou therapy

ers in the centre, but in a familiar practice environment with familiar teachers.

Stage 2: Seeking of Waiting and Responding

- ◆ *Emotion:* When the tester calls out the child's name, makes some movements of the game "Chi-chi Chanh-chanh", the tester tries to touch the child with the action of the game, the child has a disinterested expression, or negative emotions (irritability, anger, etc.), but the child is aware of the tester's stimulator.
- ◆ *Response:* When the teacher calls the child's name, touches, and says, "Let's play Chi-chi Chanh-chanh game", the child seems uncomfortable.
- ◆ *Rhythm:* Normal interaction, or unstable.
- ◆ *Flexibility:* The child interacts with teachers who have not contacted him regularly but in the practice environment with a familiar stimulator.

Post-treatment Evaluation

Commenting on the first Dohsa-hou assessment, after two months of Dohsa-hou therapy, a total of 8 times (one time/week), the assessment result shows that the social interaction behaviour of the child initially has improved. The child has a stable emotion and quality of interaction with the teachers. When interacting with teachers, the child shows signs of listening, feeling, waiting, reacting, and initially having a development of stage 3, that is, continuing response, specifically, as follows.

Stage 1: Looking for Listening and Feeling

- ◆ *Emotion:* When a teacher calls a child's name, touches the child with a gentle crawling movement, the child is aware of the impact, shows a long-lasting interest, and has positive, liking emotions expressed in his face.
- ◆ *Response:* When the teacher calls the child's name, touches the child, and says, "Let's play crab crawling", the child seems interested but does not wait for the game to continue.
- ◆ *Rhythm:* The child usually interacts cooperatively, with a stable rhythm, with fifty percent of reactions repeated during the testing time.
- ◆ *Flexibility:* Stable interaction in a training environment with familiar stimulators from unfamiliar people.

Stage 2: Search Waiting and Response

- ◆ *Emotion:* When the tester calls out the child's name and makes some game movements of "Chi-chi Chanh-chanh", the tester tries to touch the child with the game's action and recognises the impact expressed in their interest in quite a long time.
- ◆ *Response:* When the teacher calls out the child's name, touches, and says, "Let's play Chi-chi Chanh-chanh", the child seems interested, likes to interact but does not wait for the game to continue.
- ◆ *Rhythm:* The child interacts typically, with a stable rhythm, with seventy percent reactions repeated during the test.
- ◆ *Flexibility:* The child interacts stably in a familiar practice environment with unfamiliar teachers.

Stage 3: Response and Continuation

- ◆ *Emotion:* When the teacher calls out the child's name and makes the game "Keo-cua Lua-xe", the child reacts to identify the impact of the teacher but shows no interest.
- ◆ *Response:* When the examiner calls out the child's name, touches their body and says, "Let's play Keo-cua Lua-xe", the child appears to accept (nods, holding the teacher's hands, etc.) but shows uncomfortable feeling (grimaces, upset).
- ◆ *Rhythm:* The child usually interacts cooperatively with a stable rhythm, that is, fifty percent of reactions repeated during the test.
- ◆ *Flexibility:* The child interacts stably in a familiar practice environment with unfamiliar teachers.

Case 3

The Child Has Manifestations of Stress in Some Regions

- ◆ Neck vertebrae
- ◆ Shoulder area: the right shoulder is higher than the left shoulder
- ◆ Back area: spine arches to the right
- ◆ Knees are slightly bunched, two feet spread to the sides

Stress Point Assessment

1, 3, 4, 5, 6, 7, 8, 10

The Dohsa-hou Exercises Performed

- ◆ Shoulder in a sitting position
- ◆ Shoulder to back in a recumbent position
- ◆ Groin is in a lying position

Training Time

The training time is from January to March 2019 (12 times in total, once per week, 15 minutes every training time, as shown in Table 3).

Treatment Results

General Comment

The Initial Evaluation Results

The child's social interaction is at the end of stage 1, that is, seeking listening and feeling and the early of stage 2, that is, looking for, waiting and reacting, specifically with the following manifestations (Fig. 3).

Stage 1: Seeking to Listening and Feeling

- ◆ *Emotion*: When the tester calls out the child's name, makes some movements of the game "Chi-chi Chanh-chanh", the tester tries to touch the child with the action of the game, the child shows a disinterested expression, or negative emotions (irritability, anger, etc.), but is aware of the tester's impact.
- ◆ *Response*: When the teacher calls out the child's name, touches the body and says, "Let's play crawling crab game", the child accepts (nods, etc.) but does not feel comfortable (sitting still and watching the teacher).
- ◆ *Rhythm*: Normal interaction, that is, cooperative and steady with a fifty percent evaluation rate.

- ◆ *Flexibility*: Stable interaction with another teacher who is rarely in contact with the child but in a practice environment under familiar stimulators.

Stage 2: Search for Waiting and Response

- ◆ *Emotion*: When the tester calls out the child's name and moves the "Chi-chi Chanh-chanh" game with the child, the tester tries to collide with the game's action. The child is disinterested or has negative emotions (irritability, anger, etc.), but he seems to identify the tester's stimulators.
- ◆ *Response*: When the teacher calls out the child's name, touches them, and says, "Let's play Chi-chi Chanh-chanh game", the child seems to accept the interaction but does not feel comfortable
- ◆ *Rhythm*: Normal interaction, but unstable.
- ◆ *Flexibility*: The child has a stable interaction with unfamiliar centre teachers but with familiar stimulators.

Post-treatment Evaluation

Commenting on the first Dohsa-hou assessment, after two months of therapy, there is a total of 8 treatment times (one time/week), the results showed that the social interaction behaviour of the child initially has improved. Their emotion is stable, as well as the quality of interaction with the teacher is getting better. When interacting with the teacher, they show listening, feeling, waiting, reacting, and responding as below.

Stage 1: Looking for Listening and Feeling

- ◆ *Emotion*: When a teacher calls a child's name, touches the child with a gentle crawling movement, the child has a reaction identifying the impact, shows a long-lasting in-

Table 3: Level of social interaction behaviour of the child before and after Dohsa-hou therapy

	<i>Before treatment [point]</i>		<i>After treatment [point]</i>		
	<i>Stage 1</i>	<i>Stage 2</i>	<i>Stage 1</i>	<i>Stage 2</i>	<i>Stage 3</i>
<i>Emotion</i>	3	2	3	3-	1
<i>Response</i>	3	2	3	2	1
<i>Rhythm</i>	3	1	3	2	1
<i>Flexibility</i>	3	2	3	3	1

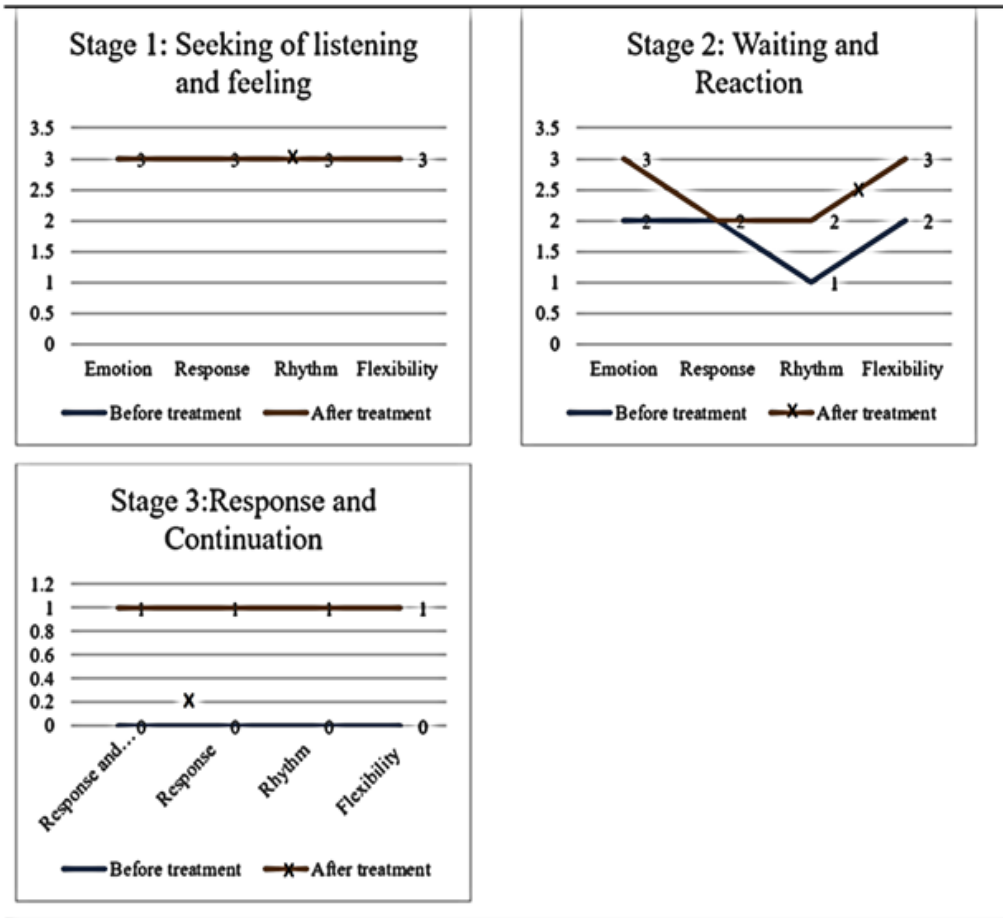


Fig. 3. The level of expression of the child's social interaction behaviour before and after Dohsa-hou therapy

terest, and has positive, liking emotions expressed on the face.

- ♦ *Response*: When the teacher called out the child's name, touched them and said, "Let's play Crawling crab game", the child showed interest but did not wait for the game to continue.
- ♦ *Rhythm*: The child usually interacts cooperatively, with a stable rhythm, with fifty percent of reactions repeated in the test duration.
- ♦ *Flexibility*: The child interacts stably in the training environment with a familiar stimulating manner from people who have infrequent contact with them.

Stage 2: Searching for Waiting and Response

- ♦ *Emotion*: When the teacher calls out the child's name, moves the "Chi-chi Chanh-chanh" game, or tries to collide with the game's actions, the child reacts to recognise the impact and expresses interest in quite a long time.
- ♦ *Response*: When the teacher calls out the child's name, touches them and says, "Let's play Chi-chi Chanh-chanh game", the child seems to accept the interaction (nod) but seems uncomfortable (passively sitting, looking at the teacher).

- ♦ *Rhythm*: The child interacts typically, with a stable pace, with fifty percent of reactions repeated in the test duration.
- ♦ *Flexibility*: The child interacts stably with strangers (therapists, new teachers, etc.) in the familiar practice environment with daily routine stimulators.

Stage 3: Response and Continuation

- ♦ *Emotion*: When the teacher calls out the child's name and makes the game "Keo-cua Lua-xe", the child reacts to identify the impact of the teacher but shows no interest.
- ♦ *Response*: When the teacher calls out the child's name, touches their body and says, "Let's play Keo-cua-lua-xe game", the child appears to accept (nods, holds hands, etc.) but seems uncomfortable (grimaces, annoys).
- ♦ *Rhythm*: The child's interaction is regular, with a stable pace, with fifty percent of reactions repeated in the test duration.
- ♦ *Flexibility*: The child's interaction is stable in the familiar practice environment with unfamiliar teachers.

In Japan, Cambodia and Indonesia, scientists have established the efficacy of Dohsa-hou for autism, attention deficit hyperactivity disorder, and children with motor disabilities, cerebral palsy, etc. (Tsuru 2007; Yoshikawa 2000). Since 2011, Professor Yoshikawa Yoshimi of Aichigakuin University in Japan has trained lecturers and students at the Department of Educational Psychology, University of Education, University of Danang in Vietnam in Dohsa-hou therapy (Vu 2019). The researchers have investigated and certified it, and demonstrated the efficacy of Dohsa-hou therapy on the children enrolled in the study. This contributes to Vietnamese psychology's development of a novel method for psychotherapy, particularly with autistic children. However, additional research is necessary to gather additional evidence.

CONCLUSION

A shift in responsiveness and interest in games was observed in three cases of children who were supported by Dohsa-hou therapy, which resulted in physical changes in the body as a result of the therapy. It was discovered through exercises that children have increased flexibility, emotion, and

speed of performance during activities, and as a result, the child's degree of social interaction has improved. It is the researchers' opinion that the Dohsa-hou exercises are to be credited for these consequences.

RECOMMENDATIONS

In this study, the data demonstrated that Dohsa-hou psychotherapy could be used to treat children with autism to support them in developing social interaction behaviours and skills. When children received Dohsa-hou therapy, their social interactions with their teachers and strangers in a familiar and daily learning setting began to show signs of improvement in their connections with strangers after a few therapy sessions.

ACKNOWLEDGMENT

This research is funded by the University of Danang, University of Science and Education under project number T2018-01.

REFERENCES

- Chervenkova V 2017. *Japanese Psychotherapies: Silence and Body-Mind Interconnectedness in Morita, Naikan and Dohsa-hou*. Singapore: Springer.
- Dadkhah A 1996. *The Effect of Dohsa-hou in Changing the Body-consciousness of Disabled Sportsmen*. Master Thesis. Japan: Kyushu University.
- Dadkhah A 1997. *Dohsa-hou: A Japanese Psycho-rehabilitative Program for Individuals with Motor Disorders and Other Disabilities*. United Kingdom: British Educational Research Association.
- Harizuka S 1986. Application of motor-action-training to autism and hyperactive children. *The Journal of Rehabilitation Psychology*, 14: 41-52.
- Harizuka S 1988. The technique of vertically straightening in Dohsa-hou for sitting posture. *The Journal of Education for Cerebral Palsied Child*, 71: 9-14.
- Harizuka S 1992. Dohsa-hou for making sitting posture with legs crossed. *The Journal of Rehabilitation Psychology*, 19: 27-33.
- Hatakeyama K, Etoh H, Konno Y 1994. The Change of External Perception through the Experience of Body Relaxation. *The 20th Congress of the Japanese Association of Behavior Therapy*, 31 January, Tokyo, Japan.
- Huang ST, Tran-Chi VL, Hsiao TE 2018. An exploration of the development of Vietnamese children's self-control ability. *Problems of Education in the 21st Century*, 76(3): 309-317.
- Johns Hopkins Bloomberg School of Public Health 2020. *U.S. Autism Rates Up 10 Percent in New CDC Report*. USA: Johns Hopkins University.

- Kamali TP, Yazdkhasti F, Oreyzi HR, Chitsaz A 2018. A comparison of effectiveness of Dohsa-hou and the Alexander Technique on happiness, social adjustment, hope, mental health, and quality of life in patients with Parkinson's Disease. *Japanese Psychological Research*, 60(2): 87-98.
- Kamohara K 1980. For application of psychological rehabilitation on schizophrenics. *The Journal of Rehabilitation Psychology*, 8: 22-27.
- Kaneko E, Kamiya N, Hatakenaka Y 2019. An application of Dohsa therapy for student-athletes as part of university counselling services. *Body, Movement and Dance in Psychotherapy*, 14(2): 66-79.
- Koga S, Nakata N 2003. Outcomes of Dohsa-hou for self-injury behavior in children with autistic-like severe intellectual disabilities. *The Journal of Rehabilitation Psychology*, 31(2): 27-40.
- Konno Y 1978. Motor control method by lifting up arm for action change on a hyperactive child. *Bulletin of Clinical and Consulting Psychology*, 24: 187-195.
- Konno Y 1993. Modification of Self-image through Autogenic Training and Dohsa Training. *The 20th Congress of the Japanese Association of Behavior*, 26-30 July, Tokyo, Japan.
- Konno Y, Ohno K, Hoshino K 1990. The process of changes of self-image through relaxation training. *Japanese Journal of Hypnosis*, 34: 17-19.
- Mohammadkhani A 2012. *The Effectiveness of Dohsa Method In Children With High Functioning Autism*. Master Thesis. Iran: Alzahra University.
- Morisaki H 2002. Dohsa-hou and developmental changes in communication behavior of children with autism. *The Journal of Rehabilitation Psychology*, 30: 65-74.
- Morisaki H 2005. The application of Dohsa-hou for children with autism. *Disability And Rehabilitation*, 11: 45-52.
- Naderi S, Dadkhah A, Borjali A, Azar ZH, Panaghi L 2014. Dohsa training and theory of mind in high functioning autistic children. *Iranian Rehabilitation Journal*, 12(2): 34-38.
- Nakajima K 1987. *Demented Elderly People with Mutism - "Tasting" the Reality of the Body*. *Clinical Symposium for Children with Disabilities - Dohsa-hou*. Japan: Clinical Center for Children with Disabilities, Kyushu University.
- Naruse G 1967. Psychological rehabilitation of cerebral palsy: On relaxation-behavior. *The Japanese Journal of Educational & Social Psychology*, 6(2): 135-148.
- Naruse G 1975. On the application of hypnosis to sports. In: L-E Uneståhl (Ed.): *Hypnosis in the Seventies*. Orebro, Sweden: Veje Förlag, pp. 171-175.
- Naruse G 1992. Recent development of Dohsa-hou in Japan. *The Journal of Rehabilitation Psychology*, 19: 7-11.
- Nguyen-Thi DM, Son VH, Tran-Chi VL 2020. Loneliness, stress, self-esteem, and deception among adolescents. *Journal of Human Ecology*, 70(1-3): 118- 123
- Oda H, Tani S 1994. Using the Dohsa method to establish an attitude toward learning activities in children with mental retardation who have autistic tendencies. *Journal of Special Education Research*, 32(3): 13-21.
- Ono M 1983. *Analysis of Change on a Hyperactive Child through the Motor Action Exercise*. Tokyo: Association of Japanese Clinical Psychology.
- Rigikouteh B, Yazdkhasti F, Etemadifar M 2013. The effectiveness of Dohsa-hou psychological rehabilitation program on severity of fatigue, depression, anxiety, stress and improve the quality of life in subjects with Multiple Sclerosis (MS). *Journal of Research in Rehabilitation Sciences*, 9(3): 445-458.
- Sasagawa E, Oda H, Fujita T 2000. Effectiveness of the Dohsa-hou on mother-child interactions: children with Down Syndrome and Autism. *The Japanese Journal of Special Education*, 38(1): 13-22.
- Tamandani FK, Kooteh BR, Mehrpoor Z 2015. The psychological rehabilitation impact through Dohsa-hou method on motional performance and peers relationship self-efficacy of children suffering from Attention Deficit Hyperactivity Disorder (ADHD). *International Journal of Applied Behavioral Sciences*, 2(4): 18-22.
- Tsuru M 1982. Improvement of body movements and social behavior in patients with schizophrenia. In: G Naruse (Ed.): *Development of Psychological Rehabilitation*. Tokyo, Japan: The Institute of Psychological Rehabilitation, pp. 169-182.
- Tsuru M 2007. *Invitation to Clinical Dohsa-hou*. Tokyo, Japan: Kongo Shuppan.
- Vietnam Child Protection Fund 2019. *Support Rehabilitation for Autistic Children in Vietnam*. Hanoi, Vietnam: VNU Publishing House.
- Vu H 2019. Hoi thao Tap huan lan thu 8: Du an Trien khai Tap huan ve Lieu phap Dohsa-hou [8th Training Workshop: Dohsa-hou Therapy Training Implementation Project]. Vietnam: University of Da Nang.
- Yamashita I 1986. Outcomes of Dohsa-hou application to children with autism and hyperactive disorders. *The Journal of Rehabilitation Psychology*, 14: 27-39.
- Yazdkhasti F, Shahbazi M 2012. The effect of Dohsa-hou psychic rehabilitation on reduction of attention deficit hyperactivity disorder and increase of social skills among students with ADHD age 6 to 11. *Journal of Research in Rehabilitation Sciences*, 8(5): 877-887.
- Yoshikawa Y 2000. Clinical intervention in the initial session of Dohsa therapy: An application of Dohsa therapy to a client with tic disorder. *Journal of Japanese Clinical Psychology*, 18(4): 325-332.

Paper received for publication in October, 2021
 Paper accepted for publication in December, 2021