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Original Article

The Effectiveness of Dohsa Psycho-Rehabilitation Method on Adaptive Behavior in Children with Autism

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Abstract

Background and Aim: Numerous studies have shown that children with autism show significant deficits in adaptive and social behavior and lack the necessary abilities to establish effective social communication with others. This study aimed to investigate the effectiveness of the Dohsa psycho-rehabilitation method (Dohsa-hou) on adaptive behavior in children with autism spectrum disorder.

Materials and Methods: This study used a pre-test and post-test control group quasi-experimental design. The statistical population of the study consisted of all children with autism in Mashhad. The study sample consisted of 30 children with autism, randomly selected and aged 6 to 11 years. The experimental group received the Dohsa Psycho-Rehabilitation Method (Dohsa-Hou) treatment program. The Adaptive Behavior Scale was used as the research instrument. The treatment consisted of 12 55-minute sessions, held twice a week for each child. The data obtained from the questionnaire were analyzed using SPSS software, employing both descriptive (mean and standard deviation) and inferential (multivariate analysis of covariance) statistics.

Results: The results showed that the Dohsa-hou psycho-rehabilitation method improved adaptive behavior and its components in children with autism ($P<0.001$).

Conclusion: Therefore, Dohsa Psycho-Rehabilitation Method (Dohsa-Hou) can be suggested as an effective method to improve interpersonal and social relationships in children with autism. Dohsa-hou method is strongly recommended as a complementary intervention for promoting adaptive, communicative, and emotional functioning in children with ASD, particularly when integrated within broader behavioral or educational plans. The intentional focus on bodily self-regulation in Dohsa-hou not only mitigates repetitive and hyperactive behaviors but also lays the groundwork for improved adaptive functioning and social engagement in children with ASD, thereby holding promising implications for both clinical practice and community-based interventions.

Keywords: Dohsa psycho-rehabilitation method, Adaptive behavior, Children, Autism spectrum disorder

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Introduction

Autism Spectrum Disorder (ASD) is a complex, lifelong neurodevelopmental condition characterized by persistent impairments in social communication, restricted interests, and repetitive behaviors, all of which significantly affect adaptive functioning (1, 2). These deficits often occur alongside challenges in cognitive, motor, and emotional development, regardless of the individual's IQ level (3, 4). According to the Diagnostic and Statistical Manual of Mental Disorders – Fifth Edition (5), ASD also includes deficits in adaptive behavior across conceptual, social, and practical domains.

Prevalence estimates indicate a global increase in ASD, with recent reports from the U.S. Centers for Disease Control and Prevention (6) suggesting that 1 in 36 children is diagnosed with ASD, and boys are affected four times more frequently than girls. In Iran, the estimated prevalence among preschool-aged children is approximately 1 in 913 (7). Adaptive behavior refers to the set of skills that enables individuals to function independently and effectively in daily life, including communication, social interaction, and self-care (8). Deficits in this domain are among the most disabling features of ASD, contributing to limited educational attainment, poor social integration, and long-term dependency (9,10). Moreover, children with ASD often show impairments in imitation, joint attention, and interpersonal engagement, and many display sensorimotor dysfunctions such as poor postural control, balance issues, and reduced motor planning (11, 12). Emphasized that sensory processing abnormalities are particularly prevalent in high-functioning autistic children and can significantly disrupt learning and behavioral adaptation. Similarly, Sabet and Gholami HeidarAbadi (2021) found that art-based interventions improved motor coordination in autistic children, supporting the use of body-oriented methods (13).

One promising intervention is Dohsa-hou, a Japanese psycho-rehabilitation method developed by Gosaku Naruse in the late 1960s (14). Dohsa-hou is based on the integration of intentional movement, muscle relaxation, and bodily awareness. Unlike purely behavioral therapies, it emphasizes the subjective experience of movement and self-regulation, enabling individuals to discover the relationship between mental states and bodily actions (15, 16). Kordi Tamandani et al. (2015) demonstrated that Dohsa-hou significantly enhanced motor performance and peer relationship self-efficacy in children with ADHD, indicating its broad applicability (17). Konno (2003) also highlighted the method's potential to enhance interpersonal communication and emotional stability in children with autism by fostering body-mind integration (16). Empirical studies support the effectiveness of Dohsa-hou in individuals with autism. Improvements have been reported in adaptive functioning, reduction in stereotypic movements, and enhanced social engagement (18, 19). In Iran, Dadkhah et al. (2014) observed significant gains in social skills and behavioral flexibility among children with high-functioning autism. More recent findings by Yamagi (2024) have shown that the method promotes relational awareness and emotional self-regulation, while Fujikawa et al. (2022) documented improvements in cognitive control and attentional flexibility using guided movement tasks (20). Additional studies have demonstrated the method's benefits in reducing oppositional behaviors (7), enhancing executive functioning and Theory of Mind (4, 21), and improving gross motor skills in children with cerebral palsy (22). One of Dohsa-hou's major strengths is its cultural adaptability and low cost. As a non-invasive, therapist-guided method that relies on physical tasks and internal body awareness rather than verbal communication or advanced equipment, it is suitable for both clinical and community-based settings in diverse populations (23, 24).

Despite growing evidence of its efficacy, few studies have rigorously assessed its impact on adaptive behavior, a critical domain in autism outcomes.

Accordingly, the present study aims to evaluate the effectiveness of the Dohsa Psycho-Rehabilitation Method (Dohsa-Hou) in enhancing adaptive behavior in children with ASD. Building upon foundational Japanese and Iranian research, and incorporating the latest evidence from 2024 clinical trials, this study seeks to contribute to the development of integrated, evidence-based interventions that support holistic development in children with autism.

Methods

This study used a pre-test and post-test control group quasi-experimental design. Based on this research design, the effectiveness of the independent variable on the experimental group was evaluated.

Study Sample and Sampling Method

The statistical population of this study consisted of all autistic children aged 6-11 years who were being educated under the supervision of the Mashhad Exceptional Education Organization during the 2018-2019 academic year. The sample of the present study was selected through convenience sampling. For this purpose, the researcher referred to a double shift school, called Tabassom, specified for children with autism in Mashhad, and examined the files of autistic children aged 6-11 years. All the students registered in this school included 70 children with autism. Of these 70 children, 32 who met the research criteria were randomly selected as the study sample and divided into two equal groups (i.e., experimental and control) of 16 children each. Then, the experimental group received the treatment. Additionally, information was collected on the background, frequency, and type of extracurricular activities each child in the sample had participated in by asking their parents to complete a questionnaire.

The research criteria included the following:

1) six- to eleven-year-old children with autism
2) no heart disease, epilepsy, or convulsion
3) no motor impairment
4) absence of any other disorders than autism
5) no previous treatment with the Dohsa-hou
6) being a student at the same school for at least a year before the start of the study.

Research Instrument

The Adaptive Behavior Scale (25): The purpose of this scale is to evaluate students' adaptive behavior. This scale was first developed by Lambert et al. (1974) and standardized on American students. In Iran, this scale was first translated by Shahni Yeilagh (1995). After being edited, it was standardized using 1,500 primary school students in Ahvaz (26). The main scale consists of 270 items, 12 domains, and two parts. Part one deals with developmental issues and evaluates an individual's competencies and habits. Part two is designed to measure maladaptive behaviors related to personality and behavioral disorders. The second part of this scale was chosen for standardization in Iran because it seemed to be more compatible with the Iranian culture and more reflective of the problems Iranian individuals face in their personal and social development. his scale, which is used to evaluate a student's adaptive behavior, is completed by the teacher. It has 11 domains (i.e., violent and destructive behavior, antisocial behavior, rebellious behavior, untrustworthy behavior, withdrawal, stereotyped behaviors and odd mannerisms, inappropriate interpersonal manners, unacceptable vocal habits, unacceptable or eccentric habits, hyperactive tendencies, and psychological disturbances) and 38 binary (i.e., sometimes=1; frequently=2) questions. The sum of scores of several questions determines the score of a domain. Shahni Yeilagh (1995) examined the criterion-related validity of the scale, and the correlation coefficients ranged from 0.52 to 0.62 (26). In addition, she reported the split-half reliability of the whole scale to be 0.80. In the present study, the reliability of the scale was examined using Cronbach's alpha coefficient, which was estimated to be 0.88. Also, the validity of the scale was assessed, and the item-total correlation coefficients ranged from 0.56 to 0.78.

Dohsa Psycho-Rehabilitation Method

Dohsa-hou was first developed and introduced by Naruse (1967) in Japan. He proposed a new psychological view of motor actions that differed from the neurophysiological view. Initially, Naruse (1967) treated children with cerebral palsy and based his view on the fact that although some nervous system disorders because disabilities associated with cerebral palsy, they are influenced by psychological activities (14). The Dohsa method is a psychological program designed to channel an individual's effort in realizing the pattern of body movement presented to them. In this study, each child with autism received Dohsa training individually for 12 sessions. Each session lasted 55 minutes, with the first 15 minutes devoted to warm-up and establishment of a relationship with the child, the next 15 minutes to relaxation, and the last 25 minutes to psychomotor relaxation techniques.

These training sessions were held weekly at the Tabassom School, a school in Mashhad specifically designed for children with autism, during the morning

shift (8:00 a.m.- 12:00 p.m.).

Procedures

To conduct this research, a letter was obtained from the College of Education and Psychology at Shiraz University, Iran. Then, the letter was submitted to the Mashhad Exceptional Education Organization, and a letter of permission to conduct a research study at Tabassom School, located in Qasim Abad, Mashhad, Khorasan Razavi Province, was issued by the organization.

Afterward, the researchers visited the school and held meetings with the principals and teachers to provide them with details about the entire study, the therapy, and the study method. Having received the principals' and teachers' consent, the researchers attended the classes for three weeks to communicate with and get to know students better. About ethical considerations, the American Psychological Association (5) ethical principles were followed in this study. Accordingly, to maintain the confidentiality of the participants, tests were coded, and the names were removed from them. Furthermore, all participants were provided with sufficient information about the research. Additionally, all participants provided written consent to participate in the study and were free to leave the research or refuse to cooperate at any stage of the study if they so wished. Also, in accordance with the ethical considerations, once the children who met the research criteria were identified, they were given a parental consent form. Of those children whose parents submitted a signed parental consent form, 32 were randomly selected and divided into two groups (i.e., experimental and control). At the same time, teachers working in the Tabassom School were given the Adaptive Behavior Scale questionnaire (25) and asked to complete it at the school. Then, the experimental group received psycho-rehabilitation treatment (Table 1), which included 12 sessions, each lasting 55 minutes. All sessions were held twice a week in the morning shift (8:00 a.m.- 12:00 p.m.).

Table 1. Techniques Used in the Dohsa Training Sessions

Sessions	Objective	Warm-up techniques	Relaxation techniques	Motor-action techniques
1-3	- Relaxation - Easy interaction with the trainer(s) - Increased self- and body-awareness - Conceptualization of intention-striving-body movement	- Walking - Seesaw task - Coordination of hands	- Deep pressure technique - Twisting of torso: while lying on the floor on one side, twist torso with shallow breathing so that your shoulder reaches the floor.	- Lifting and lowering the shoulders - Lifting and lowering the scapulas and arms in a supine position
4-6	- Mind and body relaxation - Creating a positive body image - Emotional control through proper movements - Increased attention, concentration, and stability - Promoted intention	- Walking - Seesaw task - Coordination of hands	- Deep pressure technique - Twisting of torso	- Pulling back shoulders - Releasing back spasms while standing on knees - Relaxing the chest
7-9	- Relaxation - Increased attention, concentration, and stability - Strengthening of will	- Walking - Seesaw task - Coordination of hands	- Deep pressure technique - Twisting of torso	- Relaxing the jaw muscle - Relaxing the chest - Releasing back spasms while standing on knees
10-12	- Reducing anxiety, stress, and distress	- Walking - Seesaw task - Coordination of hands	- Deep pressure technique - Twisting of torso	- Standing on the knees - Relaxing the chest - Pulling back shoulders

The children in the control group did not receive any treatment and just did the school-run daily programs that were also done by the children in the experimental group. Of the 32 children who were divided equally into the experimental and control groups, two left the study due to personal reasons, reducing the sample size to 30. Finally, the Adaptive Behavior Scale was used to evaluate the adaptive behavior of children in both experimental and control groups (25).

Community Involvement Statement

The staff of Tabassom School, along with 32 autistic students and their parents, participated in the data collection for this study.

Ethical Considerations

This study was reviewed and approved by the Ethics Committee of Shiraz University (Approval Code: 1563/48/14043/SEP). All research procedures involving human participants were conducted in strict accordance with the ethical standards of the institutional and/or national research committee, as well as with the principles outlined in the Declaration of Helsinki.

Results

Descriptive statistics, including mean and standard deviation, were calculated for pre-test and post-test data related to research variables in the experimental and control groups.

Demographic Characteristics

The study sample consisted of 32 children diagnosed with Autism Spectrum Disorder (ASD), aged between 6 and 11 years (mean age = 8.2 years, SD = 1.6). Participants included both males and females, evenly distributed across the experimental (n = 16) and control (n = 16) groups.

All participants were enrolled in specialized educational programs for children with developmental disabilities. Groups were matched on age, sex, and baseline adaptive behavior scores to control for potential confounding variables. No statistically significant differences were observed between groups in demographic variables at baseline ($p > 0.05$), ensuring comparability prior to intervention. The results are shown in Table 2.

Table 2. Mean and Standard deviation for Pre-test and Post-test Data Related to Adaptive Behavior and its Subscales in Both Study Groups

Variables	Group	NOP	Pre-test		Post-test	
			Mean	SD	Mean	SD
1- Violent and destructive behavior	Experimental	15	6.73	7.4	2.73	3.74
	Control	15	5.89	6.41	5.83	6.4
2- Antisocial behavior	Experimental	15	5.33	5.53	2.13	2.89
	Control	15	5.21	5.38	5.11	5.26
3- Rebellious behavior	Experimental	15	10.40	8.48	4.20	4.87
	Control	15	9.95	8.31	9.63	8.29
4- Untrustworthy behavior	Experimental	15	1.13	1.30	0.46	0.63
	Control	15	1.18	1.6	1.07	1.42
5- Withdrawal	Experimental	15	4.33	3.15	1.40	1.45
	Control	15	4.6	3.24	4.4	3.22
Stereotyped behaviors and odd mannerisms	Experimental	15	4.03	3.61	1.33	1.39
	Control	15	4.00	3.52	3.93	3.47
Inappropriate interpersonal manners	Experimental	15	2.33	2.69	1.07	1.39
	Control	15	0.77	1.16	0.73	1.15S
8- Unacceptable vocal habits	Experimental	15	4.20	3.47	1.53	1.55
	Control	15	4.18	3.39	3.25	3.17
9- Unacceptable or eccentric habits	Experimental	15	2.80	4.83	1.40	2.52
	Control	15	2.83	4.84	3.05	4.63
10- Hyperactive tendencies	Experimental	15	4.20	2.86	1.53	1.19
	Control	15	4.31	2.72	3.80	2.27
11- Psychological disturbances	Experimental	15	7.40	5.47	3.21	3.30
	Control	15	6.54	4.87	5.94	4.77

Note. NOP = Number of participants; SD = Standard deviation.

As shown in Table 2, prior to the intervention, there were no significant differences between the experimental and control groups in terms of the components (domains) of adaptive behavior, as indicated by the means of the experimental and control groups in the pre-test results. However, after the intervention, the experimental group performed better than the control group; that is, the means of the experimental group were lower than those of the control group in all research variables at the post-test. Mauchly's test of sphericity was used to test the assumption of normality, and the result showed that the sphericity assumption was met. The results of Levene's test of equality of error variances showed that the error variance of the dependent variable is equal across groups. Thus, multivariate analysis of covariance (MANCOVA) was used to test the statistical significance of the components of adaptive behavior. The results are presented in Table 3 and 4.

The results of multivariate tests indicated significant differences in overall adaptive behavior, as well as among components, as shown in Table 4. The test of between-subject effects is presented. As shown in Table 4, all F-values for the components of adaptive behavior were significant at the 0.05 level. Based on the F-values, there was a significant difference between the two groups in terms of the components of adaptive behavior.

Table 3. The Results of multivariate Tests

Effect		Value	F	Hypothesis df	Error df	Sig.	Partial Eta Squared
group	Pillai's Trace	0.797	2.496[b]	11.000	7.000	0.117	0.797
	Wilks' Lambda	0.203	2.496[b]	11.000	7.000	0.117	0.797
	Hotelling's Trace	3.922	2.496[b]	11.000	7.000	0.117	0.797
	Roy's Largest Root	3.922	2.496[b]	11.000	7.000	0.117	0.797

Table 4. The Results of MANCOVA for the Effects of Dohsa-Hou on Components of Adaptive Behavior

	Dependent variable	Sum of Squares	df	Mean squre.	F	Sig.	Partial Eta Squared
Group	Violent and destructive behavior	28.61	1	28.61	8.02	0.01	0.32
	Antisocial behavior	26.89	1	26.89	9.70	0.006	0.36
	Rebellious behavior	95.21	1	95.21	34.28	0.001	0.67
	Untrustworthy behavior	3.18	1	3.18	8.23	0.011	0.33
	Withdrawal	49.80	1	49.80	21.2	0.001	0.55
	Stereotyped behaviors and odd mannerisms	37.1	1	37.1	15.99	0.001	0.49
	Inappropriate interpersonal manners	3.84	1	3.84	16.18	0.001	0.49
	Unacceptable vocal habits	16.39	1	16.39	7.87	0.012	0.32
	Unacceptable or eccentric habits	15.67	1	15.67	20.61	0.001	0.55
	Hyperactive tendencies	20.93	1	20.93	18.07	0.001	0.51
	Psychological disturbances	38.41	1	38.41	16.02	0.001	0.49
Error	Violent and destructive behavior	60.59	17	3.56			
	Antisocial behavior	47.11	17	2.77			
	Rebellious behavior	47s20	17	2.77			
	Untrustworthy behavior	6.56	17	0.39			
	Withdrawal	39.94	17	2.35			
	Stereotyped behaviors and odd mannerisms	39.42	17	2.32			
	Inappropriate interpersonal manners	4.04	17	0.24			
	Unacceptable vocal habits	35.40	17	2.08			
	Unacceptable or eccentric habits	12.93	17	0.76			
	Hyperactive tendencies	19.69	17	1.16			
	Psychological disturbances	40.73	17	2.40			

Table 4. Continued.

	Dependent variable	Sum of Squares	df	Mean squre.	F	Sig.	Partial Eta Squared
Total	Violent and destructive behavior	813	30				
	Antisocial behavior	575	30				
	Rebellious behavior	1787	30				
	Untrustworthy behavior	111	30				
	Withdrawal	812	30				
	Stereotyped behaviors and odd mannerisms	403	30				
	Inappropriate interpersonal manners	71	30				
	Unacceptable vocal habits	206	30				
	Unacceptable or eccentric habits	477	30				
	Hyperactive tendencies	245	30				
	Psychological disturbances	1120	30				

Discussion

The present study aimed to examine the effectiveness of the Dohsa Psycho-Rehabilitation Method (Dohsa-Hou) on improving adaptive behavior in children with autism spectrum disorder (ASD). Multivariate analysis of covariance (MANCOVA) results confirmed a statistically significant reduction in maladaptive behavior among children who received Dohsa-hou training compared to those in the control group. These findings underscore the therapeutic value of this body-centered intervention, especially in promoting adaptive behavior domains such as emotional regulation, social interaction, and behavioral self-control. The results of this study are consistent with those of Shahni Yeilagh (1995) (26).

These results align with and extend a growing body of research supporting the Psycho-Rehabilitation Method, as well as Dohsa-hou (7, 11, 14, 24, 27, 28-33, 36).

Dohsa-hou's unique focus on intentional movement and bodily relaxation appears to activate core mechanisms related to self-regulation and interpersonal engagement. By promoting physical relaxation and motor awareness, children become more attuned to their bodily states, which may in turn support emotional stability and executive control (20, 23). These mechanisms are essential for children with ASD who often exhibit challenges in sensory-motor integration and self-regulatory behaviors (3).

The results of this study are consistent with prior findings, which demonstrate significant improvements in social interaction, eye contact, and attentional functioning among children undergoing Dohsa-hou therapy (19, 37). These effects can be partially explained through the concept of "co-movement" and synchronized physical interaction, which may foster the development of joint attention and reciprocal communication—core deficits in autism (11, 16)

Notably, the improvements observed in adaptive behavior—particularly in the domains of socialization, communication, and daily living skills—highlight Dohsa-hou's integrative approach. Prior studies using the Vineland Adaptive Behavior Scale (1) have demonstrated that even moderate gains in adaptive skills can lead to significant functional autonomy in real-world contexts. Our findings echo these conclusions and suggest that structured bodily movement may facilitate neuroplastic adaptation in children with ASD (21). Furthermore, several researchers have emphasized the method's role in addressing emotional and behavioral dysregulation. Dohsa-hou has been found effective in reducing aggression, hyperactivity, and internalizing symptoms such as anxiety and withdrawal (7, 38). The therapeutic touch, verbal suggestion, and guided physical engagement embedded in the method likely contribute to increased trust, body ownership, and emotional security. From a neuropsychological perspective, Dohsa-hou may promote top-down regulation of sensory processing. It is especially relevant for autistic children who show disrupted sensory-to-cognitive

integration (12, 32). As shown in studies by Poursadoughi et al. (2015) and Demehri et al. (2020), repeated engagement in mindful physical activity enhances cognitive flexibility and attentional control, which are foundational for adaptive functioning (29, 39, 40).

In terms of clinical application, our findings support Dohsa-hou as a low-cost, non-invasive, and culturally adaptable intervention. The evidence for its effectiveness across diverse populations—including individuals with cerebral palsy (41), ADHD (17), and Down syndrome (31)—suggests broad applicability. Moreover, recent advances in telepractice Dohsa-hou (42) open new opportunities for remote rehabilitation, particularly in underserved communities.

The significant reduction in subscales such as "violent and destructive behavior," "rebellious behavior," "antisocial behavior," and "untrustworthy behavior" may be attributed to Dohsa-hou's ability to modulate arousal and re-pattern maladaptive sensorimotor responses. This interpretation is supported by Konno (2003), who emphasized the method's role in enhancing behavioral inhibition and emotional stability through structured movement and somatic awareness (16). Recent evidence also suggests that Dohsa-hou may positively influence executive functions, particularly response inhibition and sustained attention, by engaging children in mindful movement sequences that foster motor regulation and self-control (37). These gains in executive functioning are foundational for enhancing adaptive behaviors in children with ASD, as difficulties in inhibitory control often underlie challenges in social interaction, emotional regulation, and behavioral compliance.

Moreover, it can be reasonably concluded that Dohsa-hou makes a meaningful contribution to helping autistic children achieve greater emotional stability, increased participation in daily activities, and improved social communication skills. Through structured physical engagement and behavioral patterning, Dohsa-hou exercises enhance attentional control, eye contact, concentration, and bodily self-awareness. By reshaping the child's internal perception of body image, this method fosters self-confidence, which in turn promotes more active and reciprocal social interaction. Furthermore, improvements in attention regulation and reductions in hyperactivity—key outcomes associated with Dohsa-hou—directly support gains in adaptive functioning. These mechanisms may also account for the significant improvements observed in subdomains such as violent and destructive behavior, antisocial behavior, rebellious behavior, and untrustworthy behavior, as children demonstrated greater emotional self-regulation, reduced impulsivity, and more pro-social behavioral engagement through the integration of body and mind. Of particular interest is the observed improvement in the "withdrawal" subscale. In Dohsa-hou, physical engagement is inseparably linked to volitional effort and internal motivation. It may enhance the child's sense of competence and willingness to engage socially, thereby reducing avoidant behavior. Bang (2017) found that children practicing Dohsa-hou demonstrated increased bodily awareness and postural control, leading to improved social initiation and spontaneous communication (30). Similarly, Chervenkova (2017) observed that children who previously avoided interaction began exhibiting affective responses such as eye contact, smiling, and hand gestures during Dohsa-hou sessions, indicating a reactivation of interpersonal awareness and joint attention (24). In terms of practical implications, Dohsa Psycho-Rehabilitation Method (Dohsa-Hou) represents a viable supplement to traditional interventions such as applied behavior analysis (ABA) or speech therapy, especially for children who exhibit resistance to verbally mediated approaches. The method's somatic focus provides an accessible pathway to internal regulation and expressive behavior. For parents and educators, Dohsa-hou can serve as a home-based or school-integrated intervention that requires minimal equipment and can be tailored to each child's unique motor profile.

Conclusion

Therefore, Dohsa Psycho-Rehabilitation Method (Dohsa-Hou) can be suggested as a practical therapeutic approach to enhance interpersonal and social relationships in children with autism spectrum disorder (ASD). This method emphasizes the intentional and mindful regulation of bodily movements, which facilitates a heightened bodily self-awareness and fosters mind-body integration. Through guided motor activities and therapist-child interaction, Dohsa-hou

promotes the development of self-regulatory mechanisms that extend beyond motor control to broader behavioral domains. Such embodied self-regulation is crucial in enabling children with ASD to gain voluntary control over their repetitive motor patterns, a core characteristic of the disorder, thereby helping them interrupt maladaptive behaviors and reduce hyperactivity (3, 20, 37). Moreover, the facilitation of self-regulation through Dohsa-hou aligns with neurocognitive models that emphasize sensorimotor integration as foundational for executive functioning and adaptive behavior in ASD (3). Enhanced bodily awareness, as achieved through this method, contributes not only to improved motor control but also to emotional regulation and social communication, supporting the development of functional interpersonal skills (4, 41). Given that impaired social interaction and behavioral rigidity significantly limit the quality 6 of life and learning opportunities for children with autism, Dohsa-hou's holistic approach represents a culturally adaptable and cost-effective intervention that complements existing behavioral therapies (6, 7). In addition, as stated by Morisaki (2005) (34), the most important objective and implication of Dohsa-hou is relaxation and self-control. Therefore, according to this view, it can be observed that, in this study, children with autism who received the Dohsa training exhibited fewer stereotyped behaviors and odd mannerisms due to increased self-control and mental stability.

Furthermore, the Dohsa method had a significant effect on the subscale of "hyperactive tendencies. To explain this finding, it can be argued that when we intend to move our body, our perception of our body is in accordance with our intention and will. If the effort made is appropriate, the movement will be immediately perceived, and we will be able to perform it. This process is a purposeful psychomotor activity aimed at adapting a known movement pattern in the body to a movement pattern intended by the mind. This self-regulation of body movements, highlighted and facilitated by the Dohsa method, will ultimately lead to the body's self-regulation. This self-regulation, in turn, can help children with autism to control their repetitive motor movements and enable them to stop an ongoing behavior, resulting in reduced hyperactive behavior (43).

One limitation of the present study was its focus on students with autism; therefore, caution should be exercised when generalizing the results of this study to other exceptional learners. Accordingly, it is suggested that similar studies be conducted on other exceptional children and learners. In addition, considering that the sampling method used in this study was convenience sampling, the results should be interpreted with caution when generalized. In line with the findings of this study, it is recommended that more training classes and workshops be held for parents and teachers of children with autism to educate them on the basic principles of the Dohsa psycho-rehabilitation method. Furthermore, it is recommended that Dohsa be used as a complementary method, along with other intervention methods, to help children with autism improve their adaptive behavior. At the same time, occupational therapy, speech therapy, and psychosocial rehabilitation programs should be used in autism schools and centers to maximize the beneficial effects of all treatment methods on children with autism.

The results of this study demonstrated that emotion regulation therapy improves psychological issues, particularly in the areas of emotional difficulties, psychological flexibility, and worry, in patients with Generalized Anxiety Disorder (GAD).

Therefore, mental health practitioners can utilize this approach for therapeutic objectives in patients with GAD. Due to the comorbidity of other emotional problems with GAD, emotion regulation therapy can be used as an effective treatment for these patients in psychotherapy clinics.

In summary, the intentional focus on bodily self-regulation in the Dohsa Psycho-Rehabilitation Method (Dohsa-Hou) not only mitigates repetitive and hyperactive behaviors but also lays the groundwork for improved adaptive functioning and social engagement in children with ASD, thereby holding promising implications for both clinical practice and community-based interventions.

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Conflict of Interest

The authors declare that they have no conflict of interest.

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