Sensory Processing Abilities in Elementary Students with Suicide Ideation: A Preliminary Study on the Clinical Effects of School Sandplay Group Counseling

Dong-Jun Kim
Chungnam Provincial Police

Soo-Jeong Kim
Gyo-Dong Elementary School

Un-Kyoung Ahn†
Dankook University

Lowenfeld developed sandplay therapy as a technique that allows children's multidimensional thoughts and emotions to be expressed more freely, while at the same time combining not only visual but also tactile and sensory factors. Since then, sandplay therapy has been used as a psychotherapy technique in various clinical settings around the world, but there has been no evidence-based research on sandplay therapy and sensory processing ability. This study investigated the clinical effects of school sandplay group counseling on sensory processing abilities in 20 sixth-grade elementary school students with suicide ideation. School sandplay group counseling was conducted for 8 sessions in 12 weeks, from March 2023, to June 2023. The subjects were sixth-grade students with suicide ideation from an elementary school in Chungcheongbuk-do, South Korea, with a single group of 10 males (50%) and 10 females (50%) without a control group. The average age of the participants was 11.74, with a range of 11.25-12.15. The Korean version of the SIQ-JR and the Korean version of the AASP were used as pretest and posttest instruments. The data were analyzed using SPSS 29.0. the paired-sample t-tests indicated statistically significant changes in low registration ($p = .025$), and suicide ideation ($p = 0.017$). The results of this study suggest that school sandplay group counseling may have clinical effects on sensory processing abilities and suicide ideation in elementary school children with suicide ideation.

Keywords: school sandplay group counseling, sensory processing abilities, suicide ideation.

† Corresponding author : Un-Kyoung Ahn, (31116) PhD, Department of Counseling Psychology, The Graduate School of Policy and Business Administration, Dankook University, 119 Dandae-ro, Dongnam-gu, Cheonan, Chungnam, Republic of Korea, E-mail : ahnunkyoung@dankook.ac.kr

Suicide accounts for 42.3% of the leading causes of death among teenagers, with 7.2 teenagers per 100,000 people dying by suicide(Korean Statistical Information Service, 2023).

In 2015, 1.4% of elementary school students (n=19,123) had suicidal problems, including suicide ideation, suicide plans, and suicide attempts (Hwang, Kim, Kang, Son, Kim, 2016). In addition, a study reported that 192 (29.2%) of 657 6th graders in four elementary schools had experienced suicide ideation in the past year (Hong et al., 2014).

Suicide ideation refers to thoughts closely related to suicide that frequently occur before the actual act of suicide (O'Carroll et al., 1998). Suicide ideation is correlated with various psychological factors (O'Connor & Nock, 2014), and variables such as depression(Kim & Kim, 2008; Song et al., 2003), hopelessness, and impulsivity have been identified as predictors of suicide ideation (Klonsky, May, & Saffer, 2016; O' Connor & Nock, 2014). and Seo (2019) reported an association between pain tolerance (PT) and suicide ideation.

Children and Adolescents' Mental Disorders and Sensory Abilities

Green et al. (2013) compared brain responses of adolescents with Autism Spectrum Disorders (ASD) and those of typically developing adolescents. Individuals with ASD often respond to sensory stimuli in unusual ways and may experience sensory overload or sensory-seeking behaviors due to difficulties in processing sensory information (Freeman, Ritvo, & Schroth, 1984). Green et al. (2013) reported that the brains of adolescents with ASD showed greater activation in the amygdala, hippocampus, and the Orbital-Frontal Cortex (OFC), as well as in the primary sensory cortex, compared to the brains of control adolescents group. In addition, neurological evidence has been reported for a link between sensory abilities and emotional areas of the brain, such as the amygdala (Dalton et al., 2005; Weng et al., 2011; Posner et al., 2011).

Studies linking reduced olfactory abilities and depression (Atanasova et al., 2010; Croy et al., 2014) have also described connections between olfactory pathways and brain regions related to emotional processing (Brand & Schaal, 2016). Negoias et al. (2010) reported a negative correlation between the volume of the olfactory cortex and depression severity in depression patients. Additionally, individuals with visual and auditory impairments are twice as likely to have suicide ideation and more than three times as likely to have suicide attempts in the past year compared to individuals without disabilities (Khurana, Shoham, Cooper, & Pitman, 2021), and late-life visual and auditory impairments increase

d the risk of suicide ideation (Cosh et al., 2019).

Sensory ability deficits or impairments appear to be associated with mental disorders such as depression, anxiety, and suicide ideation (Negoias et al., 2010; Atanasova et al., 2010; Croy et al., 2014; Khurana et al., 2021; Cosh et al., 2019).

Sadowski and Kelly (1993) reported that adolescent suicide attempters exhibited maladaptive cognitive-emotional-behavioral responses compared to both the control group and the mental ill group.

Sensory processing abilities and Maladaptive Cognitive-Emotional-Behavioral Responses

Brown and Dunn (2002) conducted research on the relationship between maladaptive cognitive-emotional-behavioral responses in children and adolescents and their sensory processing abilities. Adolescent/Adult Sensory Profile (AASP), based on Dunn's sensory processing model, is the leading tool for assessing sensory processing abilities in children and adolescents (Dunn, 1997; Brown & Dunn, 2002).

The Sensory Processing Model focuses on the relationship between neurological thresholds and behavioral responses. Neurological thresholds are divided into 'high' and 'low', and behavioral responses are divided into 'active' and 'passive'. People with low neurological thresholds respond quickly to weak stimuli, while people with high neurological thresholds respond passively even to strong stimuli.

Active response means that a person with low neurological thresholds reacts quickly, while passive response means that the person does the opposite of the neurological threshold. In the sensory processing model, sensory processing patterns are categorized into four quadrants: Low Registration, Sensory Seeking, Sensory Sensitivity, and Sensory Avoiding (Dunn, 1997).

Higher levels of depression in adolescents (aged 15-17; 166 males and 122 females), were associated with higher scores in sensory avoiding and low registration (Kim, Kim, Park, Jeon, & Jang, 2013).

Engel-Yeger et al (2016) reported a pattern of association between sensory processing ability scores and depression.

Children who have problems with sensory processing can have difficulty in everyday life and may experience emotional or academic difficulties (Dunn, 2002).

Children with a high Low Registration Score have difficulty recognizing things that others easily recognize due to their high neurological thresholds.

Children with high Low Registration S

cores use passive self-regulation strategies, which can make them less likely to notice additional inputs, leading to more confusing situations (Dunn, 2007).

In addition, over 90% of children with ASD suffer from sensory abnormalities (Leekam, Nieto, Libby, Wing, & Gould, 2007). Low Registration score was associated with emotional instability (r=.597) and aggression (r=.526) (Choi, Kim, Baek, Hong, Jung, 2015) Jerome and Liss (2005) reported that Low Registration scores in adolescents were associated with relationship anxiety (r=.248) and relationship avoidance (r=.224). Aggression, depression, anxiety, and self-regulatory failure have been noted as factors in suicidal behavior (Kim & Jeon, 2012; Park, 2009).

A meta-analysis of 33 studies (N = 2008) that used AASP as a measurement tool found that patients with various types of psychiatric disorders had a high score of low registration, sensory sensitivity, sensory avoiding and a low score of sensory seeking. These patterns indicate that sensory processing difficulties can be seen as a broad phenotype associated with various mental disorders (van den Boogert et al., 2022).

Sensory processing abilities and Sandplay Therapy

Sandplay Therapy (SPT) began when Lowenfeld initially introduced the World Technique which utilizes sand, water, toys, and a sand tray for children (Lowenfeld, 1931/1939). Lowenfeld sought to develop a therapeutic tool that incorporated sensory elements, such as visual and tactile, while allowing children to freely express their fluid, multidimensional thoughts and emotions (Lowenfeld, 1993/2007, pp. 3-4).

SPT further evolved under Kalff, who integrated Jung's analytical psychology and Buddhist meditation, naming it 'sandspiel' (Kalff, 1991). SPT has gained wide acceptance in Western, Asian, and Latin American and has been effectively applied to a variety of mental health issues in children and adolescents (Roesler, 2019). SPT has been effectively used in diverse clinical settings, such as disaster-stricken areas, schools, and hospitals, addressing various mental health issues in children and adolescents(Roesler, 2019; Flahive & Ray, 2007; Rousseau, Benoit, Laconix, & Gauthier, 2009; Shen & Armstrong, 2008; Kwak, Ahn, & Lim, 2020).

SPT is a technique that utilizes sand and symbolic objects to help individuals express their inner worlds, heal psychological wounds, and activate their developmental potential (Turner, 2005).

Freedle (2007) conceptualized the core experience of SPT – seeing, touching, and doing – as the 'Sensory Feedback Loop'. The Sensory Feedback Loop occurs in psychological interaction betw

een the patient and the therapist.

SPT allows patients to express their experiences using all their senses, whil e the diverse sensory environment in t he SPT therapy room offers participant s a corrective sensory information proc essing experience. (Freedle, 2007)

Freedle (2017) argued that the multi sensory experience in SPT can facilitat e neurointegration processes.

Sensory Therapeutic Factors of SPT and Neurointegration

Sensory Integration (SI) is the neurol ogical process of organizing sensory inf ormation from the environment and the body to efficiently use the body (Ayre s, 2005). SI manifests as behavioral pat terns of modulation and praxis (Bundy & Murray, 2002).

To enhance basic processes such as l earning, brain maturation, and neural or ganization for self-regulation, it is cruci al to actively engage with sensory expe riences (Derryberry & Reed, 1996; Rya n, Kuhl, & Deci, 1997; Schore, 1996).

Early sensory experiences play a sig nificant role in shaping brain patterns a nd sensory processing areas (Davidson, 1994).

Sensory functions are linked to contr ol and organization of the nervous syst em, and neuroscientific SPT researcher s have shown how SPT promotes senso ry integration through neural circuits an d investigate outcomes linked to the mu ltisensory aspects of SPT (Akimoto, Fu rukawa, & Ito, 2018; Foo, Freedle, San i, & Fonda, 2020; Freedle, 2017; Turne r, 2005).

Foo et al. (2020) used Magnetic Reso nance Spectroscopy (MRS) to examine sensory input processing in the amygda la and thalamus, which are linked to the limbic system, and found that SPT effe ctively reduced anxiety symptoms by a ctivating the thalamic-limbic neural circ uit.

Akimoto et al. (2018) used Near Infr ared Spectroscopy (NIRS) to examine t he brain activity of both therapists and clients during SPT sessions. And found that for both therapists and clients, ther e was active interconnection in several areas between the bilateral hemispheres of the brain, and enhanced activity conn ectivity in the prefrontal and temporal l obe areas.

Lowenfeld (1993/2007) initially devis ed SPT as a therapeutic method facilita ting the dynamic and multidimensional e xpression of a child's thoughts and emo tions, incorporating sensory modalities l ike vision and touch. And neuroscientifi c SPT studies have commenced explori ng the neurointegration aspects of SPT (Freedle, 2017; Foo et al., 2020; Akimo to et al., 2018). Nonetheless, the Revie w Studies of SPT found no research co ncerning the influence of the sensory fa ctors within SPT on clients' sensory pr

ocessing abilities. Furthermore, There is no research on the sensory components of sandplay as a therapeutic element within SPT (Roesler, 2019; Ahn, Lee, Lee, & Jang, 2020; Wiersma, Freedle, McRoberts, & Solberg, 2022).

Ahn (2021) suggested elements like 'play, transference, symbolic experiences, and meditation' as therapeutic factors of SPT. However, there has been a lack of interest in the impact of SPT on the sensory functioning of clients or sensory utilization as a therapeutic factor.

Therefore, this study, aims to investigate how school sandplay group counseling impacts the sensory processing abilities of elementary school students with suicide ideation and presents the following research hypothesis:

<Hypothesis> School sandplay group counseling will lead to significant changes in the sensory processing abilities of elementary school students who report suicide ideation.

Methods

Participants

This study was conducted in a local elementary school to investigate the impact of sandplay group counseling on sensory processing abilities and suicide ideation in elementary students with suicide ideation.

The average age of the participants was 11.74 years (range 11.25–12.15, SD .30), and there were 10 males and 10 females.

Procedures

The research team informed school counselers to several elementary schools in Chungcheongbuk-do about the purpose and methods of the study. The research team selected one school from the applicants.

Through the school counselor of the selected school, the research team informed the teachers' and parents' associations about the study's purpose and methods.

Through meetings, the research team selected 170 students from 7 classes of the 6th grade, who were in agreement with the research goals. The research team conveyed the study's purpose and methods to all 6th-grade parents by means of a parental communication letter. To screen students with suicide ideation, the Korean version of the Suicidal Ideation Questionnaire-Junior (SIQ-JR) was administered to all 170 6th-grade students during the ethics class. Excluding 8 students (3 students who were absent on the day, 4 students with intellectual disabilities, and 1 student who did not want to be tested), 162 students responded to the test. The research tea

m selected 36 of the 162 participants for the study based on SIQ-JR raw scores of 20 points or higher.

The research team included 4 students in the study, even if their SIQ-JR score was below 20, if they checked questions on the survey, "I thought about how I would kill myself," for a specific method, and "I thought about when I would kill myself," for a specific time.

These 40 selected students underwent individual interviews with the school counselor. And the research team individually informed the parents of the selected students about the student's psychological condition, and implemented protective measures.

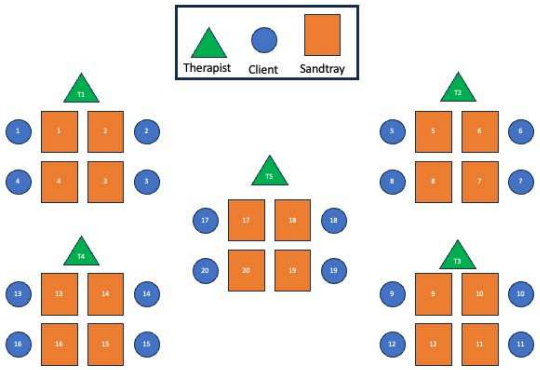
The research team informed 40 selected individuals about the study, and 20 students who agreed to participate in the study were selected as the final study subjects.

The process, from the selection of the target school to the sandplay group counseling, is presented in Table 1.

Table 1. Group Counseling Process

	Date	Content
1	March17	Selection of the Target School
2	March20	First Discussion
3	March22	Selection of the Target Grade and Second Discussion
4	March27	Conducting Pre-Psychological Testing
5	April 11 to April 14	Initial Selection of Student and Parent Interviews and Recruitment of Program Applicants
6	April 24 to May 20	Conducting 8 Sessions of Sandplay Group Counseling
7	May 30	Conducting Post-Psychological Testing
9	June 10	Final Results Reproting and Follow-up Actions

Picture 1. The composition of the counseling site

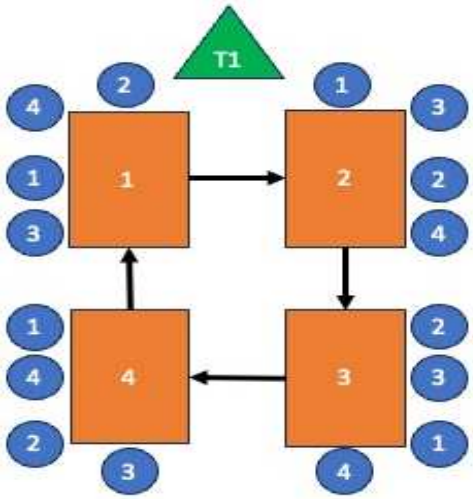


Sandplay group counseling was conducted in 5 groups, with 4 children and 1 counselor per group. The sandplay group counseling was conducted simultaneously in five groups of 20 people, and the composition of the counseling site is shown in Picture 1. The counselors consisted of two senior counselors with over 3,000 clinical hours of sandplay and three specialist counselors with over 1,000 clinical hours of sandplay.

Each group's members showed their individual sandboxes, to the other memb

ers of the group and shared stories abo ut the box. The process of the sandpla y group counseling is shown in Picture 2.

Picture 2. The progress of Sandplay group counseling.



The design for this study is field-bas ed and focuses on elementary school st udents with suicide ideation identified t hrough a school-wide psychological ass essment. Considering the research envir onment's characteristics and ethical con siderations, single-group without a cont rol group pretest-posttest design was employed.

The study consisted of a pretest, eig ht sessions of school sandplay group co unseling, and a posttest, for a total of 1 0 sessions.

The school sandplay program can als o organize a structured program based on the 'Program Construction Principles for School Sandplay Group Counseling' by Kwak, Ahn, Han, & Im (2018).

However, in this study, a non-structu red approach was adopted, involving 4 participants and 1 counselor.
This choice aimed to minimize the influ ence of structured program's symbolic t hemes on the research.

Each session lasted 40 minutes, with an introduction(5min), activity(15-25mi n), and sharing(10-20min) phase. Durin g the introductory phase of the first se ssion, the counselor educated and expla ined SPT to the participants.

In all the introductory stages from th e first to the eighth session, a treatmen t contract for SPT was established by setting rules for creating a secure grou p counseling atmosphere and organizing information protection commitments suc h as "keeping each other's secrets".

During the activity phase, the group s pent 3-5 minutes each session meditati ng in the sand, then explored the cabin et to create their own sandboxes.
In the sharing phase, participants admir ed the boxes together, introduced them selves and shared positive comments ab out each other's boxes.

Measurement Instruments

Suicidal Ideation Questionnaire- Junior (SIQ-JR). The SIQ-JR has been used to assess suicide ideation. This study u sed the SIQ-JR adapted for Korean ad olescents by Lee, Seo, Yang, & Lee (2

004). The SIQ-JR includes items that do not follow a specific order or level of severity of suicide ideation. The SIQ-JR covers various aspects of suicide ideation, ranging from general thoughts about death to more specific and severe thoughts.

The SIQ-JR comprises 15 items designed to measure suicide ideation. Participants rate the frequency of their suicidal thoughts using a 7-point Likert scale, which ranges from 0 (absent) to 6 (very often). The potential total score on this questionnaire ranges from 0 to 90.

The SIQ-JR has undergone testing for reliability and validity with Korean adolescents, with reported Cronbach's alpha values ranging from 0.68 to 0.78 (Lee et al., 2004).

This was a field-based study aimed at preventing suicidal behavior among students in a school setting, which had limitations. The nature of the school site precluded the use of additional mental status assessment tools for lower grade students.

Therefore, the SIQ-JR, a participant screening tool, was included in the pretest and posttest to measure suicidal ideation.

Korean Adolescent/Adult Sensory Profile(AASP). The AASP has been used to assess sensory processing abilities. The AASP is originally developed by Brown and Dunn (2002), which is based on Dunn's Sensory Processing Model (1997).

The K-AASP used in this study is a version of the original AASP developed by Jung (2016), reviewed by Korean experts, back-translated by translation experts, and validated for reliability and validity with a sample of 1,264 participants. The Korean version of AASP retained the same 60 items as the original version.

Each item is rated on a Likert scale, ranging from 1 (definitely does not respond that way) to 5 (definitely responds that way).

In the AASP, a test taker's Sensory Processing Abilities score is interpreted in one of five categories : (much) less than most people, similarly to most people, or (much) more than most people. These interpretations are derived from the description of an individual's score in relation to a normal distribution, providing an estimate of how individuals compare to others in their age group within specific quadrants (Dunn, 2002). The Korean version of AASP reported an interrater reliability of 0.89 for the original-back-translated items, test-retest reliability in the range of 0.806 to 0.909, and Cronbach's alpha reliability coefficients ranging from 0.660 to 0.804 (Jung, 2016).

Statistical analysis

Data analysis was performed using the SPSS 29.0 for MAC software. Descriptive statistical analysis was performed to evaluate the demographic characteristics of the participants.

To ascertain the effectiveness of school sandplay group counseling, the paired-sample t-test, was performed. And to ascertain the effect size of school sandplay group counseling Cohen's d value was calculated.

Results

This study utilized the paired-sample t-Test to examine the influence of the school sandplay group counseling program on the sensory processing abilities of elementary school students with suicide ideation.

The mean scores, mean differences, and Cohen' s d value before and after counseling, and the results of the paired-sample t-Test are presented in Table 2.

Table 2. Statistics before and after Counseling

Category	Before (N=20) m ±SD	After (N=20) m ±SD	Mean	*t*	*p*	Cohen's d
Low Registration	35.95 ±7.970	34.25 ±8.825	−1.70	−2.429	.025	−.202
Sensory Seeking	34.70 ±10.682	34.00 ±11.117	−.70	−.498	.624	−.064
Sensory Sensitivity	36.85 ±7.541	37.20 ±9.059	.35	.212	.834	.042
Sensory Avoiding	36.30 ±9.177	33.90 ±10.20	−.24	−1.820	.085	−.247
Suicide Ideation	24.45 ±20.156	14.20 ±13.285	−10.25	−2.610	.017	−.599

The results of the paired-sample t-Tests revealed statistically significant differences in suicide ideation (t = −2.610, p = .017) and low registration (t = −2.429, p = .025).

Cohen's d-value analysis showed a small effect sizes for Low Registration(Cohen' s d = −.202) and Sensory Avoiding(Cohen' s d = −.247) in the AASP quadrants and a medium effect size for Suicide Ideation (Cohen' s d = −.599), while Sensory Seeking(Cohen' s d = −.064) and Sensory Sensitivity(Cohen' s d = −.042) showed no significant effects.

Discussion

This study aimed to investigate the effects of school sandplay group counseling on the sensory processing of elementary students experiencing suicide ideation. Lowenfeld (1993/2007), the founder of SPT, developed SPT as a therapeutic approach that allows children to express thoughts and emotions using senses like vision and touch. there has been a lack of research, on both nationally and internationally, examining the impact of SPT on sensory processing abilities as variables (Roesler, 2019; Ahn, Kwak, Kim, 2021; Ahn, 2021; Wiersma et a

l., 2022; Kang, Lee, 2010; Ahn et al., 2021).

Therefore, this preliminary study is significant as it represents the initial effort to investigate the clinical impacts of SPT on sensory processing abilities.

This study was a single-group design without a control group, and a total of 10 sandplay group counseling sessions were conducted, including a pretest and posttest.

The baseline score for the participants resembled the average scores reported for Korean adolescents with moderate depression (M = 34.25, SD = 8.39) (Kim et al., 2013) and patients with schizophrenia (M = 31.94, SD = 8.92) (Jung, 2016). This comparison indicates that the participants may be facing challenges related to sensory processing issues.

After eight sessions of sandplay group counseling, there was a statistically significant change in the low registration. These results suggest that school sand play group counseling had a positive impact on the participants' sensory processing abilities.

The debate about sensory integration is still ongoing. Theoretical underpinnings, existence as a unique disorder, and the effectiveness of theory-based treatment approaches are still being debated (Pollock, 2009).

Nevertheless, in order to consider the reasons for the improvements in sensory processing abilities that occurred during the sandplay group counseling, it is reasonable to consider the variables of sensory integration therapy (SIT) that have been studied.

Kim & Kim (2009) studied the effects of group SIT on play by conducting SIT twice a week, 50 minutes per session for 6 months. Comparisons before and after the treatment period showed that play and socialization improved along with sensory processing abilities.

The results of improved socialization after SIT are consistent with improvements in peer relationships (Lee & Cha, 2011) and peer interaction and socialization (Lee & Han, 2014) after sandplay group therapy.

Kim & Kim (2009) used the Revised Knox Preschool Play Scale (RKPPS) to measure children's play levels

The RKPPS measures children on four dimensions: space management, material management, pretense/symbolic, and participation.

In sandplay group counseling, participants' appreciation of the process of making sand artwork and the image of sand artwork together, as well as group members' acceptance of the theme of the series of artwork, are variables that affect the therapeutic effect in the treatment process (Ahn, Kwak, Kim, 2021).

In conclusion, the four dimensions of play in the RKPPS scale are similar to some elements of sand play group coun

seling.

During the eight sessions of SPT, The children participating in the study experienced the core experiences of SPT, as proposed by Freedle (2007) : 'seeing,' 'touching,' and 'doing'.

The children in the study placed food props such as fruit or cake, in a box. And said to therapists and peers, treating the props as real and expressed expressions like this, 'It looks delicious. Smell it.'. They expressed not only vision and touch but also imaginative senses of taste and smell. The expression of sensory experiences through hands and eyes, along with the exploration of senses through imagination may have helped improve participants' behavioral responses to sensory experiences.

Following eight sessions of sandplay group therapy, significant changes were observed in participants' low registration as well as suicide ideation.

These findings align with a study conducted SPT on 22 adolescents who experienced suicidal events(Ahn & Kwak, 2022), and a study conducted SPT with elementary students (Jeon, Lee, & Ahn, 2023), and a Japanese study conducted SPT with 80 college students with comorbid anxiety (Kaoru, 2012).

This suggests that school sandplay group counseling has a significant clinical effect not only on the sensory processing abilities of children with suicidal thoughts but also on the reduction of suicide ideation. Previous studies have proposed various therapeutic factors, such as symbolic experiences in SPT, the positive transfer of 'Mother-Son Unity,' play, and meditation, as variables contributing to the improvement of self-concept and a reduction in self-harm and suicide ideation (Jeon et al., 2023; Ahn, & Kwak, 2022). And other SPT studies have also suggested that addressing imbalances in adolescent brain development, trauma, and improving negative attachment can lead to a reduction in suicidal behavior (Ahn & Kwak, 2022) and a decrease in anxiety, further improving self-harming behaviors (Kaoru, 2012). However, research investigating the sensory elements or sensory processing changes in SPT, as proposed by Lowenfeld (1993/2007), has not been presented.

The following are the limitations that need to be considered.

1. the relatively small sample size (n = 20) makes it difficult to generalize the research findings. Therefore, larger-scale studies are necessary to validate the results more reliably, incorporating children of various age groups and grades.

2. This study is a preliminary study to verify the effectiveness of school sand play group counseling on sensory processing abilities in a single group, which is the lowest level of therapeutic res

earch. Therefore, it is difficult to gener alize the results of this study to the eff ects of school sand play group counseli ng. In future studies, it is necessary to improve the quality of the study by set ting up a control group to ensure reliab ility.

3. due to the short duration of the st udy, it is challenging to assess the sust ainability and long-term effects of the i ntervention. Future research should del ve into the long-term impact of school sandplay group counseling and the chan ges in children's sensory processing abi lities in more detail.

4. it is difficult to define a clear mec hanism or reason for the significant dec rease in the Low Registration score aft er SPT and the non-significant changes in the Sensory Seeking, Sensory Sensiti vity, and Sensory Avoiding scores after SPT. This is because there is a lack of published research on mechanisms, and this study did not measure neurological thresholds or behavioral responses. Neu rophysiological follow-up studies measu ring neurological thresholds or behavior al responses to SPT should be conduct ed.

This is a preliminary study to investi gate the clinical effects of School Sandp lay group counseling on sensory proces sing abilities of 20 elementary school st udents with suicide ideation.

The outcomes of this study are signif icant in providing a new perspective on the application of school sandplay group counseling programs in the field and off er directions for future research.

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