



WORLD JOURNAL FOR SAND THERAPY PRACTICE

PROMOTING THE ETHICAL PRACTICE OF SAND THERAPY

Miniature-Free Sand Work in Schools

Shazia Sarwar-Azim
Walverden Primary School
Nelson, United Kingdom

Abstract

This article examines the therapeutic value of miniature-free sandtray work within a school setting in Lancashire, United Kingdom, particularly for children with Social, Emotional, and Mental Health (SEMH) needs, Special Educational Needs and Disabilities (SEND), and Autism Spectrum Condition (ASC). Drawing on literature from Jungian sandplay therapy, Sandtray Therapy, World Technique, and neurobiological perspectives, the author explores how schools with limited resources can deliver powerful sandtray-based interventions. The article highlights the symbolic, embodied, relational, and regulatory benefits of working with the sandtray alone, providing practical reflections and case examples from school-based practice.

Key words: miniature-free sand tray, Emotional Attunement Through Sand & Play; sand work

Since 2024, I have been privileged to work as an Integrated Sand and Play Trauma Intervention Therapist within a range of United Kingdom (UK) primary, secondary, independent school and alternative educational settings, supporting children with Social, Emotional and Mental Health (SEMH) needs, Special Educational Needs, and Disabilities (SEND), Medical Needs (MN) and Autism Spectrum Condition (ASC).

It is essential to clarify that while SEMH, SEND, MN, and ASC are formally recognized categories within the UK's statutory education and healthcare systems, the title *Integrated Sand and Play Trauma Intervention Therapist* is a professional practice designation rather than a legally protected or registered professional role. This title reflects specialised, accredited training by The Emotional Therapy Training Provider in trauma-informed, child-centred, and play-based therapeutic methodologies,

Shazia Sarwar-Azim

Correspondence should be sent to Shazia Sarwar-Azim, email:

info@emotionaltherapistcoach.co.uk

There are no conflicts of interest.



WORLD JOURNAL FOR SAND THERAPY PRACTICE

PROMOTING THE ETHICAL PRACTICE OF SAND THERAPY

including integrative sandplay interventions. For international readers, this role may be understood as similar to that of a child or play therapist, with a focus on integrating sand and play-based therapeutic practices within multidisciplinary education and mental health teams.

I have embedded this intervention within trauma-informed and attachment-aware practice in partnership with school staff, families, and other professionals. In my practice, I am strongly influenced by the principles of emotional attunement, non-directivity, and the importance of enabling children to access non-verbal symbolic expression.

In my practice, I use an approach I have personally developed called *Emotional Attunement Through Sand and Play*. This approach is an integrated, relational, and trauma-informed method of sandtray-based intervention rooted in principles of emotional attunement, embodied processing, and symbolic play. The approach has been formally accredited and is regulated through the Continuing Professional Development (CPD) framework, as part of a professional development consortium. An independent panel has scrutinised and quality-assured to ensure ethical alignment with professional standards, based on robust evidence-informed practice. In addition, I train other mental health practitioners in the application of *Emotional Attunement Through Sand and Play* to broaden its impact and support high-quality, trauma-informed care for children and young people with a range of social, emotional, and neurodevelopmental profiles.

While drawing on key insights from Jungian-Kalffian Sandplay Therapy (Kalff, 1980), it takes inspiration from the use of symbolic imagery, unconscious processing, and archetypal themes. From Sandtray Therapy (Homeyer & Sweeney, 2023), it adopts a non-directive, client-led approach, emphasizing safety, containment, and respect for the client's own pace and narrative. Finally, from the World Technique (Lowenfeld, 1979), it incorporates principles of spontaneous world-building, storytelling through play, and freedom to project inner worlds. These combined elements inform a distinct, object-free sandtray practice to support children with complex needs.

Echoing Homeyer and Sweeney's (2023) commitment to safety and containment, this approach provides a non-threatening, non-directive, and client-led framework. By eliminating potentially overwhelm of miniature figures, it reduces sensory overload and supports a secure therapeutic environment where clients can work at their own pace. In this way, object-free sandtray practice embodies respect for the client's narrative (Sandtray Therapy), fosters spontaneous world-building and storytelling (World Technique), and honours unconscious, archetypal themes (Jungian-Kalffian Sandplay). This promotes emotional regulation and self-exploration in a safe, contained, and empowering space.

Building on this foundation, the therapist offers children simple, open-ended resources such as a spoon, sieve, water, and containers. These items are deliberately chosen for their non-directive qualities, allowing children to engage in self-expression and exploration without being steered toward predetermined outcomes. The focus remains on enabling autonomy and



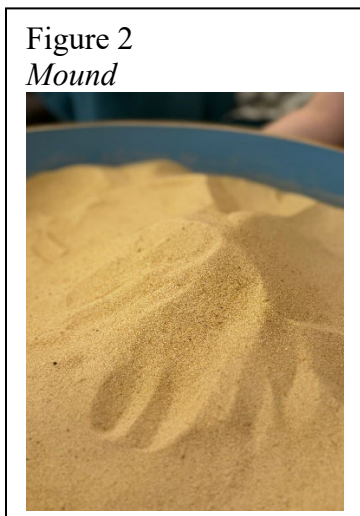
WORLD JOURNAL FOR SAND THERAPY PRACTICE

PROMOTING THE ETHICAL PRACTICE OF SAND THERAPY

supporting the child’s own process of discovery within a safe and contained framework. This emphasis on open-ended, sensory-rich materials aligns with child-centred therapeutic approaches that value freedom of projection and spontaneous creation (Lowenfeld, 1979; Kalff, 1980). By working with elemental substances such as sand and water, children can externalise inner experiences, gaining mastery through tactile engagement, and repetitive patterns of movement. Such processes not only foster regulation and a sense of control but also nurture self-agency, core components of emotional attunement, and resilience-building within therapeutic play (Homeyer & Sweeney, 2023).

Rooted in Jungian-Kalffian Sandplay Therapy (Kalff, 1980), this section highlights how even simple hand movements — drawing circles, tunnels, mounds, or spirals (Figures 1, 2 & 3) — carry symbolic meaning. These movements can serve as visual language to express unconscious thoughts and emotions, facilitating the deep, archetypal processing described by Kalff (1980). Without miniatures, the tactile experience of shaping the sand supports non-directive exploration and freedom to project inner worlds, aligning with the principles of the World Technique and client-led discovery in Sandtray Therapy.

This connects to Kalff’s (1980) emphasis on archetypes: circles may represent wholeness or cycles, while holes or tunnels may express a search for deeper truths or the unconscious mind. These shapes can emerge instinctively through children’s hands, reflecting a universal symbolic language consistent with Jungian theory. The spontaneous, client-created patterns align with the World Technique (Lowenfeld, 1979), which focuses on free projection, and with the narrative exploration that Sandtray Therapy encourages.





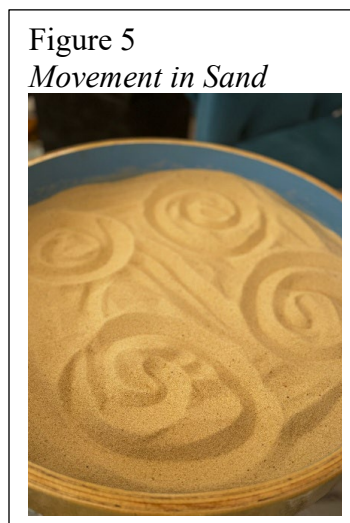
WORLD JOURNAL FOR SAND THERAPY PRACTICE

PROMOTING THE ETHICAL PRACTICE OF SAND THERAPY

For many children with extreme and complex needs, particularly those with SEMH, SEND, and ASC profiles, the process of choosing from an extensive array of miniature figures can be both daunting and frustrating. The vast variety of colours, shapes, and sizes may overwhelm their sensory systems, increasing anxiety rather than facilitating therapeutic expression. By removing this barrier, miniature-free sandtray work offers a more straightforward, sensory-safe, and more accessible medium through which these children can explore, express, and process their internal worlds without becoming dysregulated by choice overload or sensory overload.

Creating a Baseline

I begin my work by conducting collaborative meetings with school staff, parents, and children to build a relational understanding and gather key information. I also conduct baseline assessments using the *Strengths and Difficulties Questionnaire* (SDQ; Goodman, 1997), enabling both quantitative and qualitative tracking of outcomes.



Limitations in School Settings

An everyday reality in UK schools is a lack of funding and space to resource a fully equipped sandtray therapy room with an extensive collection of miniature figures, toys, images, or symbols. However, through both practice and research, I have found that this limitation is not a barrier to effective therapeutic intervention. Miniature-free sandtray work, in which the child

engages directly with the sandtray through touch, gesture, movement, and sound, offers unique and powerful opportunities for healing and self-expression (Figures 4 & 5).

Literature Review: The Power of the Sand Therapy

Pioneers of sand therapy remind us that the therapeutic essence lies not in the miniatures but in the relationship between the psyche, the sandtray, and the embodied experience. Dora Kalff, founder of Jungian Sandplay Therapy, observed, “(t)he sand and water are the most



essential elements... the contact with these elemental materials is healing in itself” (Kalff, 2003, p. 6).

Jungian Perspectives on Symbol Formation in Sand Work

At the heart of sandtray therapy is the understanding, drawn from Jungian psychology, that the psyche naturally seeks to express itself through symbols. For Jung, a symbol represents “(t)he best possible expression of something that we do not yet know” (Jung, 1969, p. 5). Within the free and open space of the sand tray, the unconscious is offered a safe, contained arena in

Figure 6
Movement in Sand



which to express emotional truths, archetypal themes, and unresolved conflicts. Kalff (2003), developing Jungian sandplay, emphasised that the sand allows the unconscious to find a visible form, “(t)he process of play in the sand is a movement toward the symbolic representation of unconscious content, which the conscious mind has not yet been able to integrate” (p. 15). Thus, the sandtray becomes a living symbolic field, where images, shapes, and patterns reflect the child’s inner world.

Importantly, even in the absence of miniature figures, this symbolic process remains active: the child’s gestures, movements, marks, rhythms, and accompanying sounds or vocalisations in the sandtray serve as meaningful symbolic expressions of unconscious material, allowing the psyche to communicate through both physical form and sound (Figure 6).

Bradway and McCoard (1997) reinforce this, “(t)he sand offers the possibility of engagement with the formless, with symbolic creation emerging from the unconscious... even without objects, the hands speak” (p. 47). It is this capacity of sandtray work to bridge conscious and unconscious layers of experience, through embodied, symbolic play, that gives it such profound therapeutic potential. Further, Margaret Lowenfeld, founder of the World Technique, highlighted the importance of choice in symbolic work, “(i)t is the freedom of the child to choose whether to speak, to act, or to be silent, that permits the play to become authentic” (Lowenfeld, 1979, p. 16).

Clinical and Embodied Benefits

In my practice, I observe that children instinctively use their hands, fingers, bodies, and voices to externalise emotional states and regulate through the sandtray:



WORLD JOURNAL FOR SAND THERAPY PRACTICE

PROMOTING THE ETHICAL PRACTICE OF SAND THERAPY

- A child digging channels with sharp, rapid movements during times of heightened arousal
- A child finds smoothing the surface rhythmically to restore calm
- Children create boundaries, shapes, or symbolic gestures to represent difficult experiences
- Children spontaneously release sounds of frustration, joy, and laughter as they engage with the sandtray
- Audible body-based releases, including joint cracking, deep sighs, and at times even flatulence, highlighting the sandtray's capacity to support somatic release alongside emotional processing

Such embodied and multisensory symbolic play allows for the processing of pre-verbal and non-verbal trauma, which is often inaccessible through purely verbal interventions.

Figure 7
Digging



Figure 8
Smoothing



Figure 9
Thump



Emotional Attunement and the Role of the Facilitator

Central to the therapeutic power of this work is the role of emotional attunement. In every session, the therapist provides a relationally safe space where the child is granted total autonomy and freedom to explore and express their inner world, without direction, interpretation, or imposed goals. This activity is not simply “playing with sand.” The presence of an attuned adult who is consistently emotionally available, responsive, and non-intrusive creates a therapeutic container in which the child can safely express, regulate, and process experiences that may lie beyond conscious awareness. In this space, the child’s spontaneous gestures,



WORLD JOURNAL FOR SAND THERAPY PRACTICE

PROMOTING THE ETHICAL PRACTICE OF SAND THERAPY

movements, sounds, and vocalisations are welcomed by the therapist, mirrored when appropriate, and held within a compassionate relational field. Although attunement and mirroring are features of other sand therapy approaches, *Emotional Attunement through Sand and Play* differentiates itself through the way these processes are conceptualised and enacted. In this model, attunement is not simply a reflective or supportive act but a deliberate therapeutic stance in which emotional co-regulation is central to the process of change. Sand practitioners employ micro-responses, tone, pace, gesture, and silence intentionally to establish a relational field of safety, enabling the child to regulate in the moment. This emphasis on co-regulation as both process and outcome distinguishes *Emotional Attunement through Sand and Play* from approaches such as Sandtray or Worldplay, where the focus often rests primarily on symbolic meaning-making with the miniatures or narrative construction

As therapists, we must cultivate deep listening — not only to words, but also to the child’s body, breath, rhythm, sound, and play in the sandtray. The child is the leader in this process; the adult holds the emotional safety of the space while protecting the child’s freedom to create, explore, and feel without judgment. It is within this delicate relational dynamic that the sand in the tray becomes a powerful medium for symbolic expression, integration, and healing.

The Therapeutic Environment and Materials

The materials used in miniature-free sandtray work are carefully selected to support sensory engagement, symbolic expression, and emotional regulation. In my practice, the core setup includes:

- A wooden sand tray, approximately 57cm by 72cm in size with a depth of 7cm and a blue-painted inner base, represents both the earth and water elements, offering a subtle invitation to depth and flow (Kalff, 2003).
- Two types of sand: one wet sand tray (Figure 10) and one dry sand tray (Figure 11), enabling children to experience differing textures, resistance, and symbolic qualities of wet (more cohesive, shaping, grounding) versus dry (fluid, shifting, releasing) sand (Lowenfeld, 1979).
- A wooden spoon, encouraging controlled movement, pouring, and sensory soothing (Figure 12)
- A sieve (Figure 13) , which allows children to engage in filtering, sorting, and symbolic separation of experiences, a process that often emerges spontaneously in trauma-informed work.
- A clear plastic container (approximately 250 ml in capacity), offering containment and transparency (Figures 14 & 15)
- A clear plastic water bottle (approximately 500ml in capacity; Figure 16), introducing visual and auditory elements of flow and soothing
- No miniature figures, toys, images, or symbols are used in this approach.



WORLD JOURNAL FOR SAND THERAPY PRACTICE

PROMOTING THE ETHICAL PRACTICE OF SAND THERAPY

Figure 10
Wet Sand



Figure 11
Dry Sand

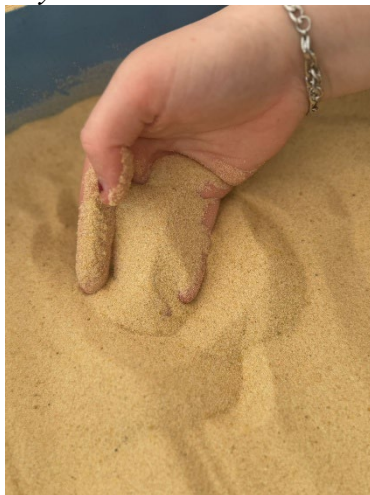


Figure 12
Wooden Spoon



Figure 13
Sieve



Figure 14
Container



Figure 15
Container with Lid





Figure 16
Water Bottle with Lid



Children's Use of Sound in Sand Work

In my school-based practice, I have also observed that sound and vocal expression frequently accompany miniature-free sandtray work. Children naturally produce a wide range of sounds during their engagement with the sandtray, including:

- Shouting, screaming, or banging in the sandtray during moments of heightened emotion
- Whispering to create hidden or secret spaces
- Engaging in self-talk as they build, sculpt, or smooth the sand
- Producing repetitive rhythms or tapping sounds as a form of regulation

This vocal expression is a vital aspect of sensorimotor integration and emotional release. It allows children to externalise affective states that may not yet be consciously processed or verbally

formulated. Bradway and McCoard (1997) wrote, "(t)he sand offers the possibility of engagement with the formless, with symbolic creation emerging from the unconscious... even without objects, the hands speak" (p. 47).

Moreover, in practice, the voice, along with breath and sound, also speaks. Vocalisations during sandtray work can serve multiple functions:

- Releasing stored tension
- Modulating arousal
- Providing an auditory narrative that supports symbolic play
- Inviting attunement and co-regulation from the therapist or trusted adult

This whole-body, multisensory engagement with the sandtray, including sound, is particularly significant for children with SEMH, SEND, and ASC profiles, for whom conventional verbal expression may be limited or developmentally inaccessible.

Case Studies

Case Studies in Miniature-Free Sandtray Work

This section presents three case studies exploring a miniature-free approach to *Emotional Attunement Through Sand and Play* with children experiencing complex trauma, neurodevelopmental conditions, and social, emotional, and mental health (SEMH) difficulties. Delivered over 12 weeks in weekly 45-minute sessions, the approach is grounded in relational,



WORLD JOURNAL FOR SAND THERAPY PRACTICE

PROMOTING THE ETHICAL PRACTICE OF SAND THERAPY

trauma-informed principles, with an emphasis on sensory regulation, nonverbal symbolic expression, and embodied integration.

A calm, attuned, and non-directive therapist stance enabled children to engage with the sand and water through their self-directed patterns, without the potentially overwhelming stimulation of miniature figures. The therapist used child-friendly scaling, the *Strengths and Difficulties Questionnaire* (SDQ), supervision notes, and multi-agency meetings to track progress. Results demonstrated observable positive shifts in emotional regulation, relational trust, and self-confidence. These case studies suggest that miniature-free sandtray practice can provide a culturally sensitive, accessible intervention for children who struggle to process trauma through words alone. I also identify implications for school-based, neurodiversity-informed practice.

Trauma-informed approaches for children with SEMH, SEND, or neurodevelopmental conditions increasingly recognise the need for nonverbal, embodied, and sensory regulation methods. Sandtray therapy, originating from Kalff's (2003) sandplay and Lowenfeld's (1979) world technique, offers a powerful means of symbolic expression. However, for some children, the presence of miniatures can be overwhelming or culturally misaligned. This paper explores the value of a miniature-free *Emotional Attunement Through Sand and Play* method in three distinct case studies, highlighting how movement, water, and the therapist's relational presence can support trauma recovery and resilience.

Case Study 1: Refugee Child, Child of Rape Victim, SEMH

Background:

School personnel referred Child A to the Trauma in Sand and Play Intervention following a history of complex trauma. The child had transitioned from a household of 12 extended family members to living with mother and one sibling. Presenting difficulties included loneliness, isolation, anger, and reduced appetite.

Sandtray Counselling: 12 weeks of miniature-free sandtray work.

Sandtray Counselling Observations:

Week 1

- Rapid, chaotic digging, rough water splashes
- Shoulders tense, no eye contact, sharp breaths
- Sign of emotional overwhelm



WORLD JOURNAL FOR SAND THERAPY PRACTICE

PROMOTING THE ETHICAL PRACTICE OF SAND THERAPY

Figure 17
Smaller Circles



Week 5

- Smoother repetitive smoothing patterns
- Some pauses to observe, shoulders dropping
- Growing sense of calm and self-regulation

Week 12

- Created slow, spiral patterns (Figure 17)
- Small greeting and gentle smile
- More relaxed posture, hopeful expression

Outcomes:

- Increased sociability with peers and adults
- Improved emotional regulation
- More positive affect and happiness
- Greater confidence in school contexts
- Initiation of play behaviours outside the home

Case Study 2: Child with Brain Tumour, SEND

Background:

Child B, diagnosed with a brain tumour was referred for support of the emotional processing of the condition.

Sandtray Counselling Observations:

Week 1

- Rapid, anxious water pouring, messy swirling
- Tense shoulders, fast movements
- Reflected distress and fear

Week 6

- Slower circular movements, gentle watching of ripples
- Steadier breathing, small smile
- Greater sense of calm

Week 12

- Smoothed a central mound, tapped gently (Figure 18)
- Soft humming, maintained a steady gaze
- Indicated confidence and acceptance

Miniature-free sandtray work.

Outcomes:

- Space to process emotions related to illness
- Increased ability to vocalise feelings



WORLD JOURNAL FOR SAND THERAPY PRACTICE

PROMOTING THE ETHICAL PRACTICE OF SAND THERAPY

- Therapeutic escapism through symbolic sandtray engagement
- Enhanced comfort and soothing through sensory play

Figure 18
Smaller Mounds



Figure 19
Boundaries



Case Study 3: Child Subject to Section 47 Child Protection, ASC

Background:

Child C was referred while subject to a Section 47 child protection process (formal UK investigation of potential significant harm, under the Children Act 1989) due to neglect concerns. The presenting profile included isolation, withdrawal, and low self-care.

12 weeks of miniature-free sandtray work.

Sandtray Counselling Observations:

Week 1

- Minimal tapping, eyes downward, no speech
- Tense, closed posture
- Suggested withdrawal and hyper-control

Week 5

- Drew straight lines and square boundaries (Figure 19)
- Brief eye contact, shoulders relaxing
- Beginning to trust



WORLD JOURNAL FOR SAND THERAPY PRACTICE

PROMOTING THE ETHICAL PRACTICE OF SAND THERAPY

Week 12

- Created circular flowing movements
- Gentle vocal sounds, occasional smiles
- Greater openness and relational confidence

Outcomes:

- Improved personal care and self-esteem
- Participation in school productions
- Ability to express fears through symbolic play
- Greater confidence, voice, and relational openness
- Development of eye contact and engagement

Discussion

This series of case studies highlights how a miniature-free, movement-based sandtray practice can support trauma recovery and relational engagement in children with complex needs. Across the cases, patterns of chaotic, withdrawn, or highly repetitive behaviours in the sand transformed into more deliberate, relational, and calm patterns. These observations align with Homeyer and Sweeney's (2023) emphasis on safety, containment, and child-led exploration, as well as with Kalff's (2003) views on archetypal emergence through symbolic expression.

Observations of improved body language, calmer breathing, and more intentional movement support theories of embodied trauma processing (Porges, 2011) and the regulatory power of sensory play. SDQ ratings from parents, teachers, and children, along with observations during multi-agency reviews, confirmed positive change in the emotional and behavioural domains. Nonetheless, larger samples and more rigorous evaluation, including standardised trauma measures, would strengthen generalisability. This approach appears promising for children who struggle with language-based or directive therapies, providing an emotionally safe, culturally inclusive, and embodied route to healing.

This emphasis on co-regulation as both process and outcome distinguishes *Emotional Attunement through Sand and Play* from approaches such as Sandtray Worldplay, where the focus often rests on symbolic meaning-making or narrative construction. The supervision reflections offered process-level insights from the therapist's perspective, capturing how children's vocal and non-verbal expressions were understood and responded to within sessions. Finger-scaling ratings, in contrast, provided immediate, child-led measures of comfort and regulation, giving a direct account of the child's experience in the moment. Taken together, these two sources of data strengthened the validity of the findings by cross-checking therapist observation with the child's own self-report, ensuring that interpretations of sound and vocalisation in sand work were not reliant on a single perspective.



Conclusion

Across these case examples and wider practice, miniature-free sandtray work has emerged as a developmentally appropriate, embodied, and trauma-sensitive intervention pathway for children facing complex emotional needs, particularly those with SEMH, SEND, and ASC profiles.

Consistent with the observations of Kalff (2003), Bradway and McCoard (1997), and Perry and Dobson (2008), the integration of sensorimotor experience, symbolic play, and relational attunement in the sandtray enables children to process material that may be inaccessible through verbal channels alone.

It is increasingly recognised that trauma is not held solely in language but is stored in the body and the implicit memory systems (Perry & Dobson, 2008). The multisensory, embodied nature of sandtray work, incorporating sound, gesture, touch, and movement, offers children an adaptive and reparative pathway for engaging with and integrating these implicit experiences (Figures 20, 21, & 22).

Moreover, for children with complex sensory processing needs, deliberately removing the miniature figure collection and providing a miniature-free sandtray creates a sensory-safe, accessible medium, reducing overwhelm and facilitating greater emotional engagement —an insight supported by both neurodevelopmental and trauma-informed frameworks.

Importantly, this approach holds practical value for mainstream and specialist educational settings, many of which operate with limited budgets and space. As this practice shows, a simple sand tray, facilitated by a trained practitioner in sand and play interventions, can enable profound therapeutic change, supporting children in ways that align with both neuroscience and relational theory.

Increasingly, sand and play interventions represent a powerful way forward for schools seeking to strengthen their mental health and wellbeing provision, offering children safe, developmentally sensitive opportunities for healing and emotional growth. As I often share with staff and families, “(w)hen words are buried, the sand speaks.”



WORLD JOURNAL FOR SAND THERAPY PRACTICE

PROMOTING THE ETHICAL PRACTICE OF SAND THERAPY

Figure 20
Movement in Sand



Figure 21
Use of Water in Sand



Figure 22
Container in Sand



References

- Bradway, K., & McCoard, B. (1997). *Sandplay: Silent workshop of the psyche*. Routledge.
- Goodman, R. (1997). The Strengths and Difficulties Questionnaire: A research note. *Journal of Child Psychology and Psychiatry*, 38(5), 581–586. <https://doi.org/10.1111/j.1469-7610.1997.tb01545.x>
- Homeyer, L. E., & Sweeney, D. S. (2023). *Sandtray therapy: A practical manual* (4th ed.). Routledge.
- Jung, C. G. (1969). *The archetypes and the collective unconscious* (2nd ed., R. F. C. Hull, Trans.). Princeton University Press. (Original work published 1959)
- Kalff, D. M. (2003). *Sandplay: A psychotherapeutic approach to the psyche*. Cloverdale Books.
- Lowenfeld, M. (1979). *The world technique and its use in child psychotherapy*. Darton, Longman & Todd.
- Perry, B. D., & Dobson, C. (2008). The neurosequential model of therapeutics: A developmentally sensitive, neurobiology-informed approach to clinical work with traumatized children. In N. Boyd Webb (Ed.), *Working with traumatized youth in child welfare* (pp. 27–52). Columbia University Press.
- Porges, S. W. (2011). *The polyvagal theory: Neurophysiological foundations of emotions, attachment, communication, and self-regulation*. W. W. Norton.



WORLD JOURNAL FOR SAND THERAPY PRACTICE

PROMOTING THE ETHICAL PRACTICE OF SAND THERAPY

Original content from this work may be used under the terms of the <https://creativecommons.org/licenses/by-nc-nd/4.0/> Any further distributions of this work (noncommercial only) must maintain attribution to the author(s), the title of the work, journal citation, and DOI.