Using Sand Tray Therapy with Individuals Diagnosed with Alzheimer's Disease

Mindy Parsons
Delray Beach Counseling
Florida, USA

The Centers for Disease Control and Prevention (2023) identifies Alzheimer's disease as an irreversible disease of the brain that grows progressively worse as it destroys brain cells that provide vital links to memory, thinking, and behavior. Currently, Alzheimer's disease afflicts more than 6.7 million Americans (Alzheimer's Association, 2023), which accounts for approximately 50% to 70% of dementia diagnoses. More alarming is the fact that the number of affected individuals is expected to nearly triple by 2040, making Alzheimer's a looming healthcare crisis – not only for the toll it is expected to take on the U.S. healthcare system but also on those who care for loved ones suffering from the disease. In 2023, Alzheimer's and other forms of dementia will cost the United States an estimated $345 billion (Alzheimer's Association, 2023). This crisis is particularly troubling considering Alzheimer's is known for its insidious progression, often leaving in its wake significant interpersonal stress on the patient as well as on his or her family (Alzheimer's Association, 2023; Khachaturian & Radebaugh, 1996) due to behavioral changes, personality changes, or various mood disturbances in affected individuals – something that mental health care professionals need to be both aware of and prepared for treating both the caregiver and patient. As the disease progresses, the individual often finds it increasingly difficult to recognize friends and family or even to name objects. While activities of daily living (ADLs) become more challenging as a person ages, the decline can be psychologically distressing and lead to social isolation (Parsons & Peluso, 2013).

With this in mind, it is critical to consider treatment methods to help aid and support those struggling with neurocognitive disorders. Kinney and Rentz (2005) suggested that a growing body of research calls for a greater understanding of ways to improve the quality of life for those with dementia-related illnesses. One possibility may be facilitating a connection to the affected individual's inner cognitions by offering a possible neural pathway to connect to and express thoughts, feelings, emotions, concerns, challenges, and fears – something that is effective through sandtray therapy with other populations.

Based on her work with sandtray and elderly clients, Baker (2004) suggested further research be undertaken with Alzheimer's patients. She proposed weekly sand tray sessions might be helpful for therapists to effectively track dementia patients' current levels of functioning, as

Correspondence concerning this article should be addressed to Mindy Parsons, Ph.D., LMHC, NCC, CCMHC, RPT-S, QS, Delray Beach Counseling, 500 NE 5th Avenue, Suite 5, Delray Beach FL 33483; Email: www.DelrayBeachCounseling.com
well as any fluctuations. Moreover, Baker believed that sandtray offered a "nonthreatening format for creative expression," which, for an elderly population, creates "much lower resistance than art productions requiring greater initiative and self-direction" (p. 52). Preston-Dillon reported that sandtray therapy offers an efficacious therapeutic intervention for a wide variety of diverse populations. Most importantly, she offered that this form of therapy is helpful for clients "throughout the life span" and that it can be a "deeply transformative experience for the client" (2008, p. 1). Taylor (2009) supported this conclusion, stating, "regardless of age, ethnicity, or gender, sand is a medium that crosses all boundaries" (p. 56). She continued, "with sand and carefully selected miniatures, one can move through the past, present, and future, describe unspeakable events, confront one's demons and overcome challenges; become a new person while retaining the best of the old; and create the potential self and its many possibilities" (p. 56). It is believed that applying this psychotherapeutic intervention can offer these individuals a means to express their thoughts, feelings, emotions, concerns, challenges, and fears in the face of a difficult diagnosis.

According to Hunter (1998), sandtray therapy can be used as both a therapeutic modality and as the primary means of communication. She pointed out that in sandtray therapy, part of the communication process has to do with the placement, choice, and movement of the figures, which are used in lieu of standard verbal responses. She explained that "the process of healing takes place while playing with the sand and figures. The tray absorbs the fear, anger, and hurt as the feelings are revealed in the scenes, rather than being painfully voiced as in verbal therapies" (p. 39). It is important to note that the sand tray's interpretation and processing are unnecessary to achieve therapeutic benefit for the participant. In fact, Miller (1982) reported that interpretation is not as important as the experience of the sandtray. He pointed out that "the perceptions associated to the scenes or pictures break into the psychic process, change its direction and pace, and objectify its contents" (p. 108). These factors combine to make it a uniquely promising approach to working with this population.

Unlike some forms of therapy, the client is in complete control of the sand tray. Moreover, the process of creating the tray promotes "mind-body healing and increased power through this safe form of tangible experience" (Hunter, 1998, p. 39). Thus, with impaired verbal skills, a common casualty of the progression of Alzheimer's and dementia, the ability to communicate nonverbally and the healing power of the sand tray is particularly well-suited for this population. According to Homeyer and Sweeney (2023), the therapeutic approach of sandtray is a way of encouraging clients to tap into their innermost thoughts and feelings by expressing them symbolically, as sandtray symbols and miniatures have the power to make the unseen visible. Perhaps most importantly, with this population, sandtray "facilitates language and expression beyond conscious awareness" (Monakes et al., 2011, p. 95).

Of particular importance for treating Alzheimer's and other dementia patients, Brown (2009) asserted that during play, individuals "are primed for the most synaptic neural growth."
This process is easier to see in the young, but occurs throughout life" (pp. 104-105). The possibility of supporting neural growth for these individuals is of significant importance. Considering how Alzheimer's disease progresses from a neurobiological standpoint, any signs of neural growth, including those encouraged by play or sandtray, could potentially slow down the progression of plaques and tangles that ultimately destroy the brain.

Method

The motivation for this study was to investigate the effect of sandtray therapy as an expressive medium on individuals diagnosed with dementia. Two research questions were utilized to design and analyze this qualitative study: (1) Does sandtray offer clients diagnosed with Alzheimer's and other forms of dementia a means to kinesthetically connect to their inner cognitions through the intentional symbolic expression offered by this unique therapeutic medium? and (2) Does sandtray offer a modality to express thoughts and connect to feelings, emotions, concerns, challenges, and fears among individuals diagnosed with Alzheimer's or other forms of dementia? The two questions were devised to examine the benefits of using sandtray therapy with this specific population.

Participants, Intervention, and Measures

For this study, all participants had been previously diagnosed with Alzheimer's disease by the recruiting neurologist at a local neurological research center. Four older adults diagnosed with Alzheimer's disease agreed to participate through informed consent following a discussion of sandtray therapy and the study's goal with each individual and their caregivers. They ranged in age from the late 60s (one participant) to their 70s (three participants) and were identified as able to understand informed consent. Other referrals were interested in the study but were identified as unable to do so due to IRB requirements regarding informed consent. This eliminated more than a dozen potential participants. The sandtray therapy sessions took place in the same private counseling office well-equipped for sandtray therapy, with one weekly session for eight weeks. Fifty-minute sessions were allotted for each participant.

Specific practices guided the researcher's observations of the participants' creations of each individual sand tray. The researcher followed the Homeyer and Sweeney (1998) Sandtray Session Summary. The researcher observed the guidelines of being unobtrusive and listening intently to any conversation or narrative that took place during the creation of each sandtray. Along with interview questions, observations, and photographs, the trays were documented, and the research also included notes as to the day, date, time, personal reactions to the trays, and thoughts about the creation of the trays. The notes included ancillary information that might be helpful when analyzing the trays later, including informal conversations with caregivers. Each photograph was paired with the client's narrative and evaluated for themes (e.g., religious, fear, denial, escape, etc.). The position of each miniature to the sand tray maker and the other
miniatures were reviewed, as well as the size; feelings evoked by the tray; the types of miniatures selected (e.g., cartoon, realistic, wild animals, archetypes, opposites, etc.); the order in which they were selected and placed; the space between objects and other considerations based on the training and personal experience of the researcher. Also analyzed were any nonverbal expressions (exasperation, frustration, etc.) to determine a greater understanding of the participant's experience with the sandtray. This helped to offer contextual clues for the experience and later for the analysis of the trays. The observation process included analyzing emerging patterns and underlying themes in each tray and among participants. Using the Sandtray Session Summary as a guide, the approach the client took (e.g., easy, determined, hesitant), the organization of the tray (e.g., empty, rigid, unpeopled) as well as a review of themes (e.g., conflict, aggression, death, healing, etc.) were all considered. In addition, objects that were chosen and then not used were considered in the analysis, as was how the participant selected and handled each object. The analysis also considered the time and difficulty for the participant in creating each sand tray. In the trays that were created, the participants (three women and one man), Grace, Maggie, Dorothy, and Thomas (pseudonyms) created autobiographies in the sand that represented the past, present, and future – each one confronting demons and speaking with unimaginable courage through the power of symbolism. To varying degrees, each participant showed glimpses of the past, present, and future in their sandtrays. Symbols of great loss emerged through it all, as well as glimmers of hope and peaceful transitions.

While the interpretation of each tray offers insight into the worldview and inner cognitions of each participant, it is essential to note that interpretation and processing of the sandtrays are not necessary for healing to take place. According to Pearson and Wilson (2001), "sandplay activates the self-healing tendencies and so it is the client's experience of the process which holds the potential for healing, rather than any therapeutic interpretation of the sand picture" (p. 6). Moreover, "sandplay allows nonverbal integration which may or may not be fully understood by the client. Feelings and understanding about the creation in the sand tray do not depend on verbal articulation" (Pearson & Wilson, p. 8).

Results

Based on the analysis of the data obtained during the intervention, the answer to the first research question, "Does sandtray offer clients diagnosed with Alzheimer's and other forms of dementia a means to kinesthetically connect to their inner cognitions through the intentional symbolic expression offered by this unique therapeutic medium?" indicates a promising indication that sandtray therapy does offer individuals with dementia a way to connect to their thoughts and feelings and express them symbolically in the tray. The second question, "Does sandtray offer a modality to express thoughts and connect to feelings, emotions, concerns, challenges, and fears among individuals diagnosed with Alzheimer's or other forms of dementia?" is affirmed. In the face of an illness that eventually will rob these individuals of their
most cherished memories and ultimately claim their lives, it appeared unmistakable that each sand tray was filled with symbolic expressions of healing, fears, challenges, blessings, and hope.

From a neurological standpoint, perhaps one of the most significant challenges is the progression of dementia as the individual slowly loses access to what gives meaning to life – his or her memories. For this reason, it is significant that sandplay creates a bridge to parts of the psyche that have no words (Kurtz, 2009). Kurtz believes that through sandplay, insight, and inner order can be restored. She explained that the images selected for the sand tray emerge from the unconscious to visually express internal conflicts, a variety of emotions, and aptitudes and possibilities that have been long since forgotten. This certainly was the case for all four participants in the study. The tangible images of the sand tray can express complex feelings. This was found to be true not only for the study participants but for the researcher's own experience with using sandtray with clients of all ages. Clinicians who have worked with this medium know that each miniature, figure, or symbol offers a tiny window into the soul of the sand story's creator.

Eight Participants’ Sand Trays

Each of the four participants completed eight trays for this study, and each tray had a thematic prompt. The themes for the eight trays were based on the research of Alzheimer’s disease and typical challenges these individuals might face, hopefully allowing for a relevant discussion, insight, and healing. Following the completion of each tray, the participant would be asked to narrate the tray and explain what each item represented to the individual creator. Barring any clarification, the following questions would be asked: (1) did you learn anything about yourself by completing this sand tray? (2) what did you like best about this sandtray experience? And (3), was there anything you didn’t like about this sandtray experience? Examples of each of the eight trays created by the participants are offered below.

Tray 1: The most frustrating part of the day

In this first tray, each participant seemed to show different levels of understanding and cognitive function. One participant, Maggie, struggled with the directions for the sandtray, although she initially seemed eager to try. Another participant, Grace, placed a tiger (just left of center), a princess (in a line and to the right), followed by a prince (also in line) in this first tray. Pointing to the tiger (Rajah, from the Disney movie Aladdin; Ritchie, 2019), she said that "aggressive people" are the most frustrating part of her day. When asked what would make it less frustrating, she turned the tiger away from the princess and prince, which she shared represented her and her husband. It is possible that the tiger represents more than just "aggressive people" and may be symbolic of her Alzheimer's disease and the disease's aggressive nature threatening her fairytale relationship with her husband – something that she voiced in a later session. As a symbol, tigers represent "the drowning of consciousness" (Chevalier &
Gheerbrant, 1996, p. 108). It can also represent the unpredictability of life. Perkins-McNally (2001) said, "These great cats are known for their power, quickness, quietness while stalking, and their ability to overpower their prey. 'Devouring' is a word commonly associated with the image of a tiger" (p. 185). Notably, the tiger was the only item out of all of her trays placed on the tray's left side (unconscious side). This may symbolize her belief that the tiger is devouring her memories as a symbol of the disease. In just three figures, so much insight and information was expressed by her. It was fascinating to note that another client used the exact same tiger figure (there were approximately eight tigers to choose from, the others being far more realistic) in a different tray and placed it in almost the exact location as Grace, and with similar undertones.

**Tray 2: What is it like to have Alzheimer’s/memory loss?**

For this tray, Dorothy chose two female figurines (one standing in her slippers holding a large soup pot and another sitting pensively deep in thought), a vulture on a perch, a prince and princess – "because they look like they're dancing." One figurine is holding a cooking pot, and she shared that her memory "is like the one with the pot. I'm walking around with something, and I think to myself, 'Where does this go?' And then it hits me that I don't know where it goes. It frightens me. It's terrifying. I'm in the closet, and I don't know why I am there. It's a terrible feeling." She also said she is like the girl who is sitting because "I do an awful lot of thinking. That's what makes me sad. We're never going dancing. We're not going again – that'll never happen." Tresidder (2008) explained that dancing is an "expression of life" (p. 50). This seems a plausible interpretation where Dorothy is concerned. For her, it may feel that, in some ways, she is no longer genuinely living or at least enjoying life, and she feels she's reached a point where her dream of how she wanted to live is over. As for the vulture, Perkins-McNally (2001) states they "are often associated with a sense of foreboding; a sense of imminent loss." (p. 190). Because of the powerful symbolic nature of sandtray, Dorothy was able to connect with her inner emotions and express her fears.

**Tray 3: World Tray**

Maggie chose the doll from the island of misfit toys (Rudolph the Red-Nosed Reindeer; Kowalchuk, 1998), an elderly man with a cane (from Up – notably, in the movie, this character loses his wife), and two similar-looking male figurines. She placed them toward the back right of the tray. Maggie was seemingly indifferent that the doll and young boy figures had fallen over. She made no attempt to adjust any of them and make them upright, possibly stemming from a sense of chaos disturbing the family dynamics. Notably, she was not represented as one of the characters in the tray during the narration.
Tray 4: My Greatest Fears

Each participant was asked to create a tray that showed their greatest fear. Maggie looked through the figures, looked at the empty tray, and declared it was done – she explained that she wasn't afraid of anything. While she could have thought that if the worst had already happened, what is there to fear? However, another possibility is that a lifetime of memories was being erased one by one until nothing remained, just emptiness like her tray. In contrast, Thomas chose three items – the "angel of death" as he referred to the grim reaper miniature, Hades (Hercules; Musker & Clements, 1997), and a shark. In Greek mythology, Hades is the god of the underworld. Perkins-McNally (2001) states that "sharks introduce the image of devouring [...] as well as the swallowing up by the unconscious forces" (p. 175).

Tray 5: Healing

In this tray, each participant showed what healing meant to them. Maggie chose a jade tree and placed it on the far right of the tray near the back. Interestingly, Chevalier and Gheerbrant (1996) reported that jade is a means to preserve the body from decomposition. For Thomas, he chose a doctor and a priest for his "Healing" tray. He liked that the priest had a bird on his shoulder, which he stated represented the Holy Spirit. This tied directly to his greatest fears tray, which according to Thomas' Catholic upbringing, the Holy Spirit represents God's Grace and the only way to be saved from the fires of Hell.

Tray 6: Golden Years / Retirement

Maggie quickly shared that she didn't like much about retirement. She said she was happiest when working as administrative support at a hospital. She described herself as an extrovert who told people if "they didn't pay her to do her job, she gladly would have paid them." She chose a doctor, which she placed in the back on the right of the tray like almost all her trays. This selection is an example of the nuanced elicitation that sandtray offers. So, although she chose a doctor to represent the hospital she used to work with, based on the fact that there is nothing in her tray that represents her golden years, it is also possible that she feels that doctor appointments and medical interventions are all that she has left in her retirement years, which was the prompt for the tray.

Tray 7: Upset and Frustrated

Grace chose Alice from Alice in Wonderland (Geronimi, Jackson, & Luske, 1951) and placed her in the center of the tray and approximately two-thirds of the way toward the back. She explained her choice and said, "I get upset with me." She continued, "Since I've been here, it's made me think a lot and look into myself more, but when I think about my husband and my family, I feel content." She said she chose Alice because she looked pleasant and "not threatening." Perkins-McNally (2001) explained that Alice in Wonderland symbolizes being "lost
in a strange world" (p. 146). While using just one figure makes it an empty tray, the choice of *Alice in Wonderland* certainly seemed to speak volumes about how Grace feels about herself, her life, and the world around her.

**The 8th and Final Tray: Hope for the Future**

Grace's narrative for this tray was illuminating after choosing an angel and Superman. Notably, she is not represented in this final tray. Her words were powerful as she said, "My husband is very strong mentally. He's my Superman. He looks after the family." She then pointed to the angel and said, "She represents prayers for goodwill." She added, "I liked doing this tray because I was able to release some emotion. It surprised me that I was able to associate with the figures so much. Looking at the figures in the sand and how it makes me feel and how fortunate I am. It was funny that from a small figurine that, I could smile and open up so many feelings. You know, it was easier than I thought; it really was. It was interesting that a little figure would bring out so much in me. I didn't think I'd like coming here, but everything was pleasant and a surprise. This makes me feel good." This last tray of hers may be the most prophetic in that this is how she most likely sees her future – her husband having to be strong, a superhero no less, and to carry on without her, and her only option is making sure the angels are praying and watching over him.

**Psychosocial Themes of the Last Life Cycle**

Each participant has entered the final cycle of life and is now facing what Erikson et al. (1986) described as the need to balance their trustworthy wholeness and a foreboding future of bleak fragmentation. They referred to this conflict as integrity versus despair, and it is evident that some participants struggled to find this balance. The authors wrote eloquently about this stage: It is through this last stage that the life cycle weaves back on itself in its entirety, ultimately integrating maturing forms of hope, will, purpose, competence, fidelity, love, and care, into a comprehensive sense of wisdom. Throughout life, the individual has on some level, anticipated the finality of old age, experiencing an existential dread of "not-being" alongside an ever-present process of integrating those behaviors and restraints, those choices and rejections, those essential strengths and weaknesses over time that constitute what we have called the sense of "I" in the world. In old age, this tension reaches its ascendancy. The elder is challenged to draw on a life cycle that is far more nearly completed than yet to be lived, to consolidate a sense of wisdom with which to live out the future, to place him- or herself in the perspective of those generations now living, and to accept his or her place in an infinite historical progression (pp. 55-56). So many parallels in the sand trays can be drawn from this description of the final life cycle. In each of the participants' trays, there were signs of hope, will, purpose, competence, fidelity, love, loss, and care. There were elements of wisdom and insight. There also were many signs that these individuals are anticipating and preparing for the finality of old age and visually are showing
their place in the historical progression of their families. Each participant had trays in which they were not in the tray – certainly representing an experience of the existential dread of "not-being" and, with it, the loss of "I."

For Grace, Maggie, Thomas, and Dorothy, the challenge of knowing that life is most nearly complete and that there remains little yet to be lived was courageously expressed in the symbolism in their sand trays. All of them bravely revealed themselves in their trays by showing their individual perspectives on the generations now living and their acceptance (or nonacceptance, as it were) of their place in the progression of time and the place they occupy in their family's history.

**Limitations and Discussion**

The generalizability and significance of the findings of this study are limited due to the small sample size. However, perhaps one of this study's most important findings includes the potential for sandtray to allow participants diagnosed with Alzheimer's or some form of dementia to kinesthetically connect to their inner cognitions through this intentional form of symbolic expression. Carey (1999) spoke of the need for a sensory experience for clients in crisis and said that sand therapy "... provides this sensory experience, and meets the need that we all have kinesthetic experiences. This fundamental essential, an extension of very basic attachment needs, is met through relationship and experience" (p. xvii). Carey continued: "sandplay provides both of these elements for clients. [...] The manipulation of the sand and placement of the miniatures is both safe and kinesthetically satisfying" (p. xvii). In this study, the unique therapeutic medium of sandtray offered a way for participants to connect and express thoughts, feelings, emotions, concerns, challenges, and fears. While Carey warned that people are not healed through technique but through an encounter with the Self, she said it is possible to express, process, and ultimately seek balance in archetypal images through sand therapy. Caprio (1993) explained that throughout the history of sandtray research, the underlying common denominator always has been that it is "a means of connection with the unconscious" (p. 310). According to Caprio, "[Lowenfeld and Kalff] both saw the tray of sand and the figures as a way to elicit visual images of unconscious psychodynamics" (p. 310).

"The nonverbal approach and power of sandplay has to be seen and experienced to be believed" (Perkins-McNally, 2001, p. 4). Perkins-McNally also underscored the use of sandplay as a unique therapeutic tool and arguably the most powerful for creating a metaphoric dialogue and stimulating the psyche's visual and kinesthetic areas. Caprio (1993) agreed: "I am convinced that it is an exquisitely valuable tool with which the psyche can express itself" (p. 308). Amatruda (2003) addressed somatic consciousness in adult sandplay therapy. She pointed out that this type of therapy is uniquely able to create a mind/body connection, ultimately facilitating lines of communication between the conscious and the unconscious (Amatruda, 2003). She explained that this form of therapy can cross the psyche and soma, mind, and body thresholds. Perhaps
most importantly, as it relates to therapy with individuals diagnosed with some form of dementia, she believed that the psyche could form a safe place for healing. Stewart (1990) voiced this sentiment as well: "By playing again like a child, with all the seriousness of a child at play, the adult revives lost memories, releases unconscious fantasies, and in the course of time, constellates the images of reconciliation and wholeness of the individuation process" (p. 36). This was undoubtedly seen among the four participants, whether intentional or not. Each one, in his or her own way, accessed lost memories; acknowledged, if not released, his or her dreams; and worked toward reconciliation. To achieve this, each one experienced a limbic conversation between the left and right hemispheres during the selection of miniatures in creating a sand tray (Badenoch, 2011). Badenoch explained that during the process of sandtray therapy, the mind searches for meaning in the miniature. This, she explained, indicates the left hemisphere trying to place the meaning in context and see if it makes sense. At the 2011 annual conference of the Florida Association of Play Therapy, she stated: If we can release the left hemisphere's guesses and stay attuned to our bodily response to our miniature, at some point, a felt sense of the meaning will begin to emerge. This often happens initially without words – perhaps as bodily sensation, behavioral impulse, or intuitive sense of greater meaning being present. This is our limbic voice sharing the reason we picked this particular object. Often, the meaning will then become known as words in the left hemisphere. Still, even if this doesn't occur, the sense of meaningful connection with our miniature integrates the limbic and middle prefrontal circuits in the right hemisphere – the core healing process.

The Roman poet Ovid, who lived during the time of Christ, summed up the beauty and revelatory nature of play. He said that in our play, we reveal what kind of people we are (Ovid Quotes, n.d.). After reviewing all 32 sand trays, it seems clear that each participant could symbolically express his or her innermost feelings, emotions, challenges, fears, and hopes for the future. This therapeutic modality allowed for a kinesthetic experience that is unique to sandtray. Perhaps the most important finding of the case study is that it appears to indicate specific cognitive deficits and memory impairments, as illustrated in the sand trays created by the participants. Specifically, the majority of the trays were created by placing the miniatures mainly on the right side of the tray, representing the conscious mind or concrete world a person inhabits. This may indicate that an individual's access to the unconscious or internal reality is diminished as the disease progresses. This is a potentially significant finding that warrants further investigation.

**The Importance of Internal Reality and External Reality for Memory**

An individual has both an internal and external reality that, in some ways, are symbiotic, sometimes blending into each other and certainly interacting with one another. Each influences the other. A person’s internal reality is comprised of his or her mental and emotional state and is considered synonymous with his or her psyche. This internal reality includes a person's
perceptions, thoughts, attitudes, and evaluations of what's happening around them, while their external reality includes people, events, and the environment around them. This includes external influences, such as the impact parents, partners, friends, school, etc., have on how a person sees and interprets the world in which they live. Although these two types of reality are distinct, it is impossible to separate the two. Our internal reality largely determines how we approach the world (our external reality). This concept is essential in understanding what has been revealed in the sand trays of these four participants. Creating a series of sand trays is said to activate a dialogue between the conscious and the unconscious (Kurtz, 2009). The sand tray offers a "safe place to explore issues that the unconscious is ready to release" (Pearson & Wilson, 2001, p. 12). This, in turn, allows the conscious mind – the ego – to release its control over the psyche and create a pathway for deeper-level thoughts and emotions to rise to the surface. This certainly was seen with Grace and Dorothy. Both women shared their challenges and struggles in a way that they had not been able to share with anyone else. Thomas's trays were open and honest, revealing a dialogue regarding topics rarely broached in even the healthiest interpersonal relationships.

Bradway (1990) shared that she has been asked if sand therapy reflects where a person is on the individuation continuum or if sand therapy facilitates the individuation. Her response was that it does both. "I think it both affects and reflects: the creative process is always therapeutic, and the product of the process may be representative of one's stage of one's development" (p. 133). This is important to understand and consider in context that all 32 trays in this study were, by any definition, considered "empty." Some sandtray therapy theorists feel that an empty tray can speak of interior emptiness and feelings of loneliness (Carey, 1999). This would be consistent with the isolating effects of a dementing illness. It also could relate to an interior emptiness brought on by increasingly limited access to short-term memories and, thus, one's internal reality or ability to process new memories. If the sand indeed does hold a mirror up to where a person is mentally and emotionally, then the trays of these individuals would suggest that, as the disease progresses, the individual increasingly has limited access to his or her internal reality. This supposition is supported by most of the trays completed by Grace and Maggie. These two individuals, as well as Dorothy, placed the vast majority of their miniatures on the right side of the tray, which has been said to represent the conscious areas of the brain. Since the conscious side is analogous to a person's external reality and the external reality includes people, events, etc. – the more concrete aspects of life – then the sand trays of these two participants suggest that they are relying almost exclusively on their external reality with no way to filter, process, or make meaning of new information coming in by linking it to memories that are based on their internal reality. Thus, in this scenario, a person's attitudes, beliefs, and feelings about various environmental factors or events are not grounded, filtered, or contextually understood based on memory. In this light, some of the more common symptoms of Alzheimer's and dementia make sense as a fear-based defense mechanism since each new interaction cannot
be understood without the context offered by a person's internal reality – an aspect of the psyche that may be unavailable to individuals with dementia. Schacter (1996) stated that "appreciating the present and anticipating the future hinge on an ability to communicate with the past" (p. 160). He explained that without the ability to communicate with the past by accessing memories and the emotions that are attached to them, a person quite literally is cut off from who they are and where they are headed. This may at least partially explain the agitation and confusion that often accompanies the cognitive decline of dementia. Thus, if a person with a dementing illness has limited access to their internal reality based on their inability to access memories of who they are and how they feel about the world around them, then they become like an untethered soul adrift in a sea of external reality that makes little or no sense to them. Schacter (1996) pointed out what has happened to us in the past determines what we take out of our daily encounters in life; memories are records of how we have experienced events, not replicas of the events themselves [...] this preexisting knowledge powerfully influences how we encode and store new memories, thus contributing to the nature, texture, and quality of what we will recall of the moment. (p. 6)

Thus, without the subjective information to give new memories context, short-term memories cannot be "filed" properly. This may explain the difficulty experienced by the advancing plaques and tangles in the brain caused by dementia. It is suggested that in the sand tray it is possible to see the deterioration and inaccessibility of an individual's internal reality based on the placement of miniatures mainly, if not exclusively, on the right side of the sand tray, representing the conscious or external reality. Schacter (2001) said that our sense of personal identity and self-awareness is stripped away without memory. In short, he believes that "memory is life" (p. 6). He described the impact, saying that when a person's past is gone at the hands of dementia, so is much of the person. He explained, "Early in the course of the disease, many Alzheimer's patients maintain acute insight into their problems, whereas others minimize or deny their symptoms." (p. 158). An example of the denial of symptoms is most likely displayed in the case of Grace. In her narrative, she continues to focus exclusively on the positive, yet the symbolism of her sand trays shows her true understanding of the progression of the disease.

Hunter (1998) stated that the most important items will often be placed in the center of the tray, while opposites will be placed diagonally from each other in the corners (thereby creating the most distance possible in the tray). As stated earlier, the left half of the tray generally includes elements of the unconscious "with images representing the instincts in the closest area and spiritual symbols in the farther corner" (Hunter, 1998, p. 33). Hunter explained: "Figures indicating aspects of conscious, external reality are frequently found on the right side" (p. 33). Using Hunter's information as guiding principles makes Grace's, Maggie's, and Dorothy's trays extremely interesting in that most were lopsided, and most placements were on the right side. Their actions, based on Hunter, suggest these individuals may be focusing almost exclusively on
external reality. Perkins-McNally (2001) stated that the left side of the tray represents the unconscious part of the personality, while the right side represents the conscious. Pearson and Wilson (2001) offered that the sand tray is a "safe place to explore issues that the unconscious is ready to release" (p. 12). However, with this particular population, the unconscious areas of the mind may be inaccessible due to the progression of the dementing illness. "Each of us has a constant drive in the psyche that wants to make sense of our inner and outer worlds, wants to bring harmony with all parts of ourselves. Working at the sand tray facilitates this sifting and integrating process and exposes much that may have been hidden or buried to us" (Pearson & Wilson, 2001, p. 2).

Pearson and Wilson (2001) stated that sandtray facilitates "congruence between our inner world and outer worlds. Strengthening this connection is therapeutic" (p. 2). Thus, for Alzheimer's patients, it appears that without access, or limited access, to preexisting knowledge that helps to properly and contextually file new memories, the quality and perhaps the ability to recall new information is compromised. This is one possible explanation for the concrete leanings of the more cognitively impaired participants. With waning access to their internal realities, new information can no longer be coded appropriately and retained. Baines (2007) suggested that there is a need for research into how a dementia patient's emotional involvement in an image may affect its retention; this study seems to indicate there is reason to expect a connection. One of the most essential facets of memory is that "we cannot separate our memories of the ongoing events of our lives from what has happened to us previously" (Schacter, 1996, p. 5). However, that is precisely the dilemma facing those with a dementing illness. The memories of ongoing events are essentially cut off from what has happened previously because there are no contextual clues available to these individuals, given their inability to subjectively evaluate new information. Schacter (2001) summed it up as "the fragile power of how the past shapes the present [that] holds the foundation for our most strongly held beliefs about ourselves" (p. 7). This makes sense since what people look for and are willing to tolerate is based on their internal landscape and reality. Without access to one's internal reality, the world around us becomes increasingly challenging to navigate because the only true thing one controls in life is oneself. But for those with dementia, that control becomes less and less accessible as the disease progresses. Ultimately it is hoped that this study starts a discussion on finding more effective ways of applying psychotherapeutic interventions for individuals diagnosed with a neurocognitive disorder.

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