Foraged Materials in Art Therapy: An Arts-Based Experiential Study

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Abstract

This arts-based experiential study was established to study the specific therapeutic benefits of foraged materials when implemented into art therapy practice and identify material properties that may be more or less therapeutically effective for individual clients. Fourteen Likert rating scales were used to measure the properties of 34 foraged materials during eight artmaking sessions. Each session included a group of three to seven foraged materials and consisted of artmaking, the photographic documentation of artwork, material property rating on the Likert scales, and a narrative documentation of the entire session. After all the material properties were rated, the results were grouped according to the rank they received within each property rating scale and each property was assessed to determine how it would affect therapeutic efficacy with different populations. Recommendations for foraged material application in art therapy practice were offered. Overall, the study resulted in a set of scales and criteria for measuring foraged material properties and how they affect an individual, as well as guidelines for incorporating foraged materials into art therapy practice with respect to material properties and population needs. Among other benefits, the application of these results will offer an opportunity to create a stronger connection between the client and the therapeutic process and make art therapy more approachable to those who are resistant to working with conventional art materials.

Keywords: foraged materials, art therapy, eco-art therapy, ecotherapy, nature therap

Chapter I

Introduction

"With the exception of people, Nature speaks and acts with only one universal holistic and unifying language- that of self-evident, verifiable, felt sensations and attractions" (Sweeney, 2013, p. 20). Foraged materials, or materials originating from nature (Gragert, 2016), have been used for healing purposes for as long as humanity has existed. Within the therapy field, use of foraged materials is most often associated with horticultural therapy and ecotherapy. Ecotherapy, also called nature therapy, focuses primarily on establishing a meaningful and beneficial connection between nature and client to promote wellbeing (GoodTherapy, n.d.b). Horticultural therapy utilizes gardens and plant material as therapeutic interventions and is classified under ecotherapy (American Horticultural Therapy Association [AHTA], n.d.a; Autry, 1986; GoodTherapy, n.d.b).

Foraged materials provide a wide range of options for self-expression and offer many benefits in therapeutic use. Working with foraged materials requires sensory-motor (physical), cognitive (mental), and affective (emotional) exertion from the client (Mattson et al., 1993). Additionally, the unique variety of nature-based properties of foraged materials provides a spiritual and grounding link to the natural world (Hewson, 2001) and offers a means for clients to communicate with the therapist and the natural world (Sneh & Tristan, 1991; Swank et al., 2020). Art therapy treatment with foraged materials presents a combined-material approach to treatment that can also act as an alternative source of expressive media for clients who may be less inclined to participate in art; foraged materials are not considered traditional artmaking materials and thus may be considered more approachable (Chang & Netzer, 2019). While foraged materials have been successfully utilized in therapy, standardized policies and

procedures, information on properties, and specific activity techniques for foraged materials in therapeutic treatment have yet to be developed (Chang & Netzer, 2019; Fetherman et al., 2005).

The purpose of this arts-based experiential study is to examine and assess numerous natural properties of an extensive variety of foraged materials. The data gathered from this experiential study will ultimately be used to assemble a thorough set of guidelines for successfully implementing several kinds of foraged materials into art therapy practice with respect to population needs and material properties. The data collection will include five-point Likert scales to assess different forms of physicality, therapeutic effect, and compatibility with the artmaking process of foraged materials. I anticipate that the data analysis will provide an understanding of and guidelines for properties of foraged materials, appropriate settings and populations based on properties, and recommendations for application in art therapy practice. Additionally, it will function as a firsthand account of a burgeoning field where foraged material media is combined with artistic media to promote therapeutic healing.

Operational Definitions

Eco-art therapy- Relatively newly recognized branch that merges aspects of ecotherapy and art therapy (Speert, 2016; Sweeney, 2013).

Ecotherapy- Form of therapy that focuses on establishing and strengthening the connection between the client and nature to achieve balance and personal well-being (GoodTherapy, n.d.b).

Expressive Therapies Continuum (ETC)- Guide for artistic media decisions and interactions that provide a methodology framework for incorporating media into art therapy sessions (Hinz, 2020).

Foraged materials- Materials that have been produced by and are found in nature, which may include live plant materials or inanimate objects such as twigs, feathers, and sand (Gragert, 2016).

Horticultural therapy- Form of therapy that involves the use of plant materials and gardens in therapeutic treatment and is a subcategory of ecotherapy (American Horticultural Therapy Association [AHTA], n.d.a; GoodTherapy, n.d.b).

Media Dimension Variables (MDV)- Continuum that separates media according to the following properties: fluidity/resistance, simplicity/complexity, and structure/lack of structure (Kagin, 1969; Lusebrink, 1990).

Nature therapy- See Ecotherapy.

Chapter II

Literature Review

Foraged Materials

Foraged materials are valuable resources that can be utilized in almost any artistic or therapeutic environment. In this paper, the term foraged materials refers to materials that have been produced by and are found in nature, which may include live plant materials or inanimate objects such as twigs, feathers, and sand. This definition was influenced by Gragert's (2016) informational article on Bridget Beth Collins, an artist who uses foraged materials, which she described as being carefully selected from gardens, woods, sidewalks, and fields, to create organic works of art. Foraged materials are known to be consistently used in nature therapy, horticultural therapy, and ecotherapy. Oftentimes these terms are considered interchangeable; however, there are notable differences. Ecotherapy, or nature therapy, revolves around the idea of forming and strengthening the connection between client and nature to achieve balance and personal well-being (GoodTherapy, n.d.b). Horticultural therapy involves the use of plant material and gardens in therapeutic treatment and therefore is a subcategory of ecotherapy (American Horticultural Therapy Association [AHTA], n.d.a; Autry, 1986; GoodTherapy, n.d.b). Since the aforementioned forms of therapy vary in philosophy and materials used in therapeutic treatment, it is important to be educated on and remain aware of the various distinctive qualities and treatment approaches in each domain.

Role of Foraged Materials in Therapy

Foraged materials serve a diverse array of purposes in therapeutic settings. Hewson (2001) conducted an indoor and outdoor group horticultural therapy program for inpatient individuals diagnosed with PTSD and noted that "the sights, sounds, and sensations of nature

help to ground feelings and allow clients to progress through their treatment period" (p. 46). The use of foraged materials also promotes general wellbeing through various forms of exercise. As Mattson et al. (1993) stated within a report of suggested standards for practicing horticultural therapy, activities involving foraged materials require the application of the sensory-motor (physical), cognitive (mental), and affective (emotional) domains. Clients can also experience a deep and meaningful connection to foraged materials, which can then further the ability for personal expression. In a study involving the arrangement of plant materials in therapy, Sneh and Tristan (1991) listed some human qualities that specific plants may exhibit through visual traits: "A flexible stem/pliant attitude; a delicate-edged leaf/a sensitive nature; wilted/sad; open flower/boldness; closed bud/shyness; pointed leaves/defensive; thick, turgid stem/strength; broad, green leaf/security; white flower/purity; thorns/pain" (p. 18). Communication can be facilitated through attention to and the use of specific properties of foraged materials (Sneh & Tristan, 1991; Swank et al., 2020). In a research study on the incorporation of foraged materials into a play therapy room, Swank et al. (2020) explained the benefits of providing natural resources in play therapy: "Because of the universality of nature, or perhaps its inherent calming essence, natural materials (e.g., feathers, sea-shells) may offer a grounded means of communication that allows the child freedom and creativity in expression" (p. 160). In sum, the literature identifies grounding, promotion of overall health, communication, personal expression, and relatability as common functions of foraged materials.

Nature Therapy Credentials

Ecotherapy is a therapeutic practice that uses nature, most often in the form of foraged objects or a natural environment, in treatment (GoodTherapy, n.d.a). Certification or a degree is required to practice ecotherapy and, though there is a current lack of formal standards for

becoming an ecotherapist, one must be a mental health clinician to obtain the proper credentials (GoodTherapy, n.d.a; Henna, 2021). Furthermore, the quality of education and foundational requirements for becoming a practicing ecotherapist differ across programs. Ecotherapy education and certification can be attained through a variety of means such as self-education through research, classes (at or outside of colleges and universities), continuing education workshops and seminars, and online training programs (GoodTherapy, n.d.a; Henna, 2021).

Horticultural Therapy Credentials

Horticultural therapy is defined as the therapeutic use of plant materials and garden environments in treatment plans (AHTA, n.d.a). AHTA (n.d.b) guidelines state that in order to become a qualified horticultural therapist one must either complete a bachelor's degree in horticultural therapy or hold a bachelor's degree while taking additional coursework in horticulture, plant, and human science; furthermore, 480 hours of internship work are required to complete the training, become a credentialed Horticultural Therapist-Registered (HTR), and register professionally with AHTA. Horticultural therapy coursework can be taken within or outside of a degree program and is offered via colleges and universities, online courses, and credit for work and life experiences (AHTA, n.d.b). In sum, although it can seem like a simple task to integrate plants into one's therapeutic practice, extensive training in horticultural therapy is required to be able to provide quality horticultural therapy services for clients.

Theory in Practice with Foraged Materials

Analysis of peer-reviewed literature on the use of horticulture and foraged materials in therapy revealed a repeated presence of both client-centered and cognitive-behavioral theories. The client-centered theory was by far the most popular theoretical approach and focused on common themes of individuality, sense of self, nurturing, self-esteem, self-awareness,

adaptability, personal growth, self-expression, interpersonal communication, self-efficacy, being in the present moment, and sensory stimulation (Epstein & Greenberger, 1990; Hewson, 2001; Monroe, 2015; Sabra, 2016; Salomon, 2002; Sneh & Tristan, 1991; Wichrowski, 2006). Cognitive-behavioral theory (CBT) is oriented toward behavioral and psychoeducational aspects of therapy; themes across the literature included education on plant care techniques, coping skills, behavior modification, skill-building, and cognitive/psychological restoration (Autry, 1986; Fetherman et al., 2005; Monroe, 2015; Roe & Aspinall, 2011; Sabra, 2016; Salomon, 2002). Other theories that were less commonly utilized in the literature were interpersonal psychotherapy (Sabra, 2016) and phenomenological theory with a particular focus on metaphorical elements (Montgomery & Courtney, 2015).

Materials and Environment

The topic of foraged materials encompasses a variety of materials and settings. Salomon (2002) noted the importance of providing a diverse array of activities and natural spaces to be able to meet each client's individual needs, capabilities, and interests throughout the course of therapy. Gardens (namely vegetable, herb, and/or flower beds) were among the most mentioned settings for foraged material use within therapy (Ferrini, 2003; Hewson, 2001; Salomon, 2002; Wichrowski, 2006). Ferrini (2003) also described the use of enabling gardens, which are adapted to be accessible to individuals with disabilities, and Epstein and Greenberger's (1990) horticultural program utilized small tabletop dish gardens for planting and decoration. There were several other specified materials and environments in the literature as well. Swank et al. (2020) emphasized the use of locally available foraged materials and provided an extensive list of foraged materials utilized in a playroom including "shells, flowers, grass, leaves, moss, straw, pinecones, charcoal, coal, tea, berries, spices/herbs, beans, rice, nuts, seeds, wool, felt, fleece,

natural cotton, bees-wax, homemade paper, chalk, natural twine/thread, feathers, and clay" (p. 157-158). Seeds, propagated plants, and transplants (plants that are pre-grown in preparation for being planted in a different pot or the ground) were additionally described as foraged materials used in therapy (Epstein & Greenberger, 1990; Ferrini, 2003; Fetherman et al., 2005; Monroe, 2015; Sabra, 2016). Flowers and plants were used for the creation of botanic arrangements and were noted to have symbolic meaning (Fetherman et al., 2005; Montgomery & Courtney, 2015). Each of these techniques with foraged materials requires an appropriate, quiet, and secure environment that allows the client to work toward therapeutic goals.

Natural outdoor environments were the most popular spaces for working with foraged materials (Ferrini, 2003; Hewson, 2001; Messer, 1996; Monroe, 2015; Roe & Aspinall, 2011; Sabra, 2016; Wichrowski, 2006). Messer (1996) discussed the creation of a therapeutic landscape with the following natural elements to arrange an immersive and stimulating environment: light, shadow, temperature, sound, wind, and moisture. However, outdoor environments are not always accessible or appropriate for therapy sessions. Other settings that researchers utilized for the therapeutic use of foraged materials included greenhouses or sunrooms (Ferrini, 2003; Hewson, 2001; Salomon, 2002), indoor therapy rooms (Swank et al., 2020; Wichrowski, 2006), and hospitals (Stamm & Barber, 1999; Williams, 1989). It is important to remain open to experiencing new environments in which therapy can be conducted to ensure that each client's needs are being met to the best of the therapist's (and the environment's) abilities.

Benefits

There are a plethora of cognitive, mental, emotional, and behavioral benefits that can result from the use of foraged materials, both live and inanimate, in therapy with individuals of

all ages and backgrounds. Sabra (2016) conducted a study with an open group of an average of five adults of all genders and various cultural and ethnic backgrounds with chronic mental illness using seedlings and houseplant cuttings to understand how assuming a plant caretaker role affected chronic mental illness. The study found that caring for plant life led to increased self-awareness, curiosity, and responsibility for self-care; additionally, the maintenance of plant life provided continued access to foraged materials.

Wichrowski (2006), reviewing previous literature, examined the effects of utilizing natural spaces, creating gardens, and enhancing indoor rooms with plant life on participants in a study of various horticultural therapy experiences. The results of the study demonstrated an increase in adaptive skills, a decrease in anxiety and resistance, and identification of horticulture as a "meaningful emotional experience" in relation to life, the life cycle, and projective tendencies: "It is an ideal medium for therapeutic change and growth because it readily allows the patient to extend or project his thoughts, feelings, and conflicts into the medium" (Wichrowski, 2006, p. 59). This placed an emphasis on the value of plant material as a medium for self-expression.

Stamm and Barber (1999) researched similarities in patient outcomes with indoor and outdoor gardening programs, various horticultural projects (i.e. growing plants, propagation techniques, ecology studies, walking trails for material collection), and a horticultural therapy program provided for inpatient trauma survivors. The findings demonstrated that an analogy comparing plant growth to personal development led to the transformation of increased self-esteem and skill level in horticultural activities. As a result, the grounding effects of nature within the horticultural program assisted with patients' treatment progression.

Williams (1989) explored the benefits of a group horticultural therapy program in a short-term psychiatric ward. Group sessions took place twice a week, lasted an hour, and consisted of four to six patients. The horticultural program focused on seeding, watering, and transplanting various plants in a garden for the benefit of the entire ward and also contained an individual component wherein patients grew and tended to their own plants, which were taken home after discharge and provided a physical product of the patient's success in the program. Participation in the program was found to increase social interaction and teamwork, teach patients to take responsibility for plant care, promote satisfaction with program achievements, increase independence, and heighten self-image.

A study by Monroe (2015) focused on the effects of various horticultural therapy activities including tending to seeds, gardening outdoors, planting, and harvesting in a weekly group of five patients within a psychiatric inpatient clinic. An emphasis was placed on the unique value of each group member through the assignment of individual tasks to each participant. Results of the study showed increased physical activity, improved cooperation and social skills, strengthened self-esteem, increased insight and focus, increased awareness of feelings, and a promising method for coping through mindful gardening.

Autry (1986) compared several horticultural therapy source documents and compiled a report of important variables in horticultural therapy that encourage change in a client's behavior via nonverbal interaction with the environment and therapist. It was ultimately found that participation in horticultural therapy programs provided positive behavioral modification, multisensory stimulation, fortified self-concept, and a sense of accomplishment. Additionally, participants' negative behavior was redirected into positive behavior through the completion of horticultural projects.

Fetherman et al. (2005) examined major benefits to health and wellbeing according to outcomes from three horticultural therapy programs. Each program consisted of the following activities: plant repotting, maintenance of plants, flower arranging, and viewing of a flower slideshow. Consistent client results from the three programs demonstrated a positive effect on behavior with reduced negative behaviors; feelings of productivity; progressive expression of emotions; strengthened cognitive, perceptual, and intellectual focus; increased self-esteem and empowerment; increased socialization and newly established friendships; pride in the personal accomplishment of thriving plants; and improved cognitive and mental skills.

Challenges

While foraged materials have proven to be beneficial additions to therapeutic resources, there are multiple challenges that must be taken into consideration before they are incorporated into therapeutic practice. Firstly, the use of a natural environment as a therapy setting can be limited by factors including availability, accessibility, privacy, weather conditions, and safety (Chang & Netzer, 2019; Mattson et al., 1993; Swank et al., 2020). Mattson et al. (1993) pointed out the seasonal nature of some horticultural therapy activities as well as the benefits of "climate controlled structures such as greenhouses or indoor light gardens" for maintaining the accessibility of a horticultural therapy program (p. 47). Clients' personal factors must also be thoroughly contemplated when preparing to use foraged materials. These may include allergies, resistance, inability to participate, unfamiliarity with materials, and previous experiences with foraged materials and natural environment (Chang & Netzer, 2019; Roe & Aspinall, 2011; Swank et al., 2020). In a study examining the benefits of outdoor school on 18 students with an average age of 11, Roe and Aspinall (2011) asserted that when working with children it is important to consider complex and dynamic variations in each child's affect as it relates to a

natural environment. While many children may experience the stress-reducing benefits of a natural environment, some may be fearful of natural environments such as forests due to dramatic media portrayals, parental warnings, scary folktales, and spatial perception that may trigger claustrophobia. Meticulous reflection on the elements of available natural environments and each client's needs and personal factors is necessary in order to ensure that each client gains an optimal therapeutic experience from the use of foraged materials and a natural environment.

Examples of Interventions

Previously conducted interventions found in the literature enlisted various methods for incorporating foraged materials into therapeutic treatment. In a report that suggested standards for horticultural therapy practice, Mattson et al. (1993) asserted that horticultural therapy activities must be coordinated with respect to and consideration of each client's unique background and educational, social, cultural, and economic factors. The authors additionally advocated that horticultural therapy standards should include activity modifications such as "special gardening aids or adaptive tools" to make horticultural therapy experiences widely accessible and successful (Mattson et al., 1993, p. 42). As aforementioned, it is important to recall the difference between horticultural therapy materials and foraged materials when considering the nature of the following interventions.

In a study that provided international research on people-plant interactions, Ferrini (2003) described horticultural therapy enabling gardens as areas for gardening by "people of all ages and abilities" (p. 79). Enabling gardens are specifically designed to be easily accessed by the elderly and individuals with mental and physical disabilities who may be limited in other environments and activities. The provision of inclusive and fulfilling activities creates a community of wellness and reduces the lonesomeness, isolation, and idleness that are often

experienced by these populations. Ferrini (2003) stressed the importance of having an enabling garden that is able to cater to all types of disabilities and that any limitations must be counteracted as thoroughly as possible through the provision of stimulation for all five senses. For example, for individuals with visual impairments, enabling gardens should feature specially selected plants with notable scents and recognizable textures to compensate for the lack of visual stimulation.

Epstein and Greenberger (1990) provided research on dish gardens as a long-term horticultural therapy approach to stimulate one-on-one relationships between 25 second grade students and 25 nursing home residents (selected according to social appropriateness rather than physical impairments) over the course of a school year. The residents in the program were asked to assist in plant propagation with plant selections organized by the horticultural therapist due to the following characteristics: easily propagated, easily held, and stimulating to tactile (texture) and visual (color) senses. Once residents and students were paired, the students chose plants and assembled their dish gardens while residents provided guidance. At the end of the program, each student took their dish garden home as both a reminder of their resident friend and an educational experience through the long-term maintenance and care of plants.

In a study that combined results from multiple play therapists' use of nature in the playroom and an original case illustration, Swank et al. (2020) described existing foraged materials in the playroom during the discussed case illustration: "sand in a large sandbox centered in the room, a log placed beside a hammer and nails, and a container of water because the room was not equipped with a sink" (p. 159). Access to a multitude of foraged materials in the playroom was increased with the therapist's addition of a toy basket including "a container of dirt, an envelope of seeds, seashells, feathers, sticks, leaves, rocks, and pinecones" (p. 159). The

case illustration involves a person-centered therapeutic approach to the play therapy treatment of a five-year-old female who displayed disruptive behaviors and low self-esteem in a kindergarten class. In the first session, the client explored the foraged materials and added the seeds to the dirt-filled container (without adding water) before moving on to other toys for the remainder of the session. The therapist followed the client's example and did not water the seeds between sessions. However, during the next session, the client chose to water the seeds and the therapist followed her lead accordingly between sessions. In this way, the use of foraged materials allowed the client to forge a uniquely personal process and experience her impact on the seeds while sharing responsibility for plant maintenance with the therapist. As the seeds grew, the client and therapist continued to water them and the growth process simultaneously acted as a metaphor for the client's personal growth, development, and nurturing by caretakers. At one point, the client used tactile sensations of feathers to reconnect to the therapist after experiencing difficulty with the therapist's limit setting. During termination, the client created a card with several foraged materials for a budding friendship at school; each of these situations involving foraged materials demonstrates the opportunity for communication and relation between individuals that is provided by foraged materials in therapy.

Gaps and Limitations

Although foraged materials have been implemented into many successful therapeutic interventions, there is a remaining need for information and formal standards regarding the use of foraged materials in therapy. In a study examining the relationship between horticultural therapy and human well-being, Fetherman et al. (2005) identified a need for the development of policies and procedures for the documentation of objectives, activity techniques, and outcomes associated with the use of foraged materials in therapeutic interventions. While conducting a

study on the effects of foraged material use on working adults in an urban setting, Chang and Netzer (2019) noted a sizable gap in research that assesses the therapeutic benefits of foraged materials when utilized in outdoor environments. Future studies on the use of foraged materials in therapy should seek to address these shortcomings in the literature to broaden the parameters of therapeutic knowledge regarding foraged materials.

Art Therapy

Expressive Therapies Continuum

It is crucial to take aspects of the Expressive Therapies Continuum (ETC) into account when considering the use of artistic media in art therapy. The ETC is a guide for media decisions and interactions that provides a methodology framework for incorporating media into art therapy sessions (Hinz, 2020). Every session and client is unique, so art therapy approaches must always be carefully planned. In the ETC, various properties of and interactions between media are categorized within a developmental series involving "information processing and image formation from simple to complex" (Hinz, 2020, p. 4). The hierarchy-style spectrum of classifications ranges "...from simple kinesthetic experiences at one end to complex symbolic images at the other" (Hinz, 2020, p. 4). Four processing levels are present in the ETC: Kinesthetic/Sensory, Perceptual/Affective, Cognitive/Symbolic, and Creative. While the first three levels are paired in a complementary fashion, the fourth level can happen at any ETC level where optimal functioning is represented and can additionally indicate the successful integration of all ETC components.

Levels of Information Processing. The Kinesthetic/Sensory level of information processing is preverbal and acquired through kinesthetic and sensory encounters (Hinz, 2020). No verbalizations are necessary to process the information on this level; Hinz (2020) describes it

as "...rhythmic, tactile, and sensual" (p. 4). Kinesthetic/Sensory level experiences are vital when working with children. The next level, Perceptual/Affective, involves information processing through formed images (Hinz, 2020). Within this level, words may be necessary depending on the nature of the encounter. The Perceptual end is influenced by both images and expressions that emerge in the form of meticulous attention to formal elements of art within the visual expression. Conversely, the emotional, raw information processing of the Affective side manifests in vibrant, colorful image expression that lacks consideration of form and other elements. The Perceptual/Affective level is followed by the Cognitive/Symbolic level, which Hinz (2020) identified as "...complex and sophisticated; it requires planning, cognitive action, and intuitive recognition" (p. 5). Cognitive/Symbolic information processing and image formation require verbalization most of the time in order to acquire an understanding of symbolism or cognitive processes that occur within the client's experience.

The ETC Hierarchy. The hierarchical arranging of the ETC visually demonstrates the differing methods of information processing that occur within each end of an ETC level (Hinz, 2020). On the left side of the ETC are Kinesthetic, Perceptual, and Cognitive levels; the placement of these levels represents processes that primarily involve left hemisphere brain activity. On the opposite side of the ETC, the Sensory, Affective, and Symbolic levels represent processes that primarily involve right hemisphere brain activity. The Creative level, which is situated in the middle of the ETC hierarchical structure, combines activity from both the left and right hemispheres of the brain. Hinz (2020) described the process of integrating the first three ETC levels into the fourth level:

> From an activity using the Kinesthetic/Sensory level, an experience on the Perceptual dimension evolves when forms are perceived. Further, the Symbolic component is

> engaged when a perceived form takes on special meaning and a personal symbol is produced. In this instance, all levels of the ETC are represented in one creative experience. (p. 6)

The process of fully assimilating all ETC levels within a creative encounter is therefore considered both a logical and abstract occurrence, given the activity within both hemispheres of the brain.

Media Dimension Variables. The ETC framework draws largely from Kagin's (1969) classification of media dimension variables (MDV). The MDV continuum separates media according to the following properties: "fluid versus resistive, simple versus complex, and structured versus unstructured" (Lusebrink, 1990, p. 84). The dimension of a medium may change depending on the client's style of interaction, developmental level, or regressive level (Lusebrink, 1990). Furthermore, the experience one is gaining from the material can be amplified by an increase in material quantity, although increasing the quantity of some undifferentiated materials (i.e., fingerpaint) may be harmful to the client (Kagin & Lusebrink, 1978).

The initial MDV category, fluid to resistive, involves the structural qualities in a medium. The next category, simple to complex, requires examination of the numerical amount of steps or operations (physical and mental) that are needed to successfully utilize a medium. Lusebrink (1990) adds that the 'simple to complex' category is especially imperative to consider during work with young children and individuals with developmental or physical impairments; more complex media may increase resistance and frustration with the experience. Structured to unstructured, the final MDV continuum category, entails any instruction (or lack thereof) given by the therapist before, during, or after an art intervention. This ranges from the free expression with a media of choice to directions for depicting a specific theme with a specific media and may

reach more highly structured tasks that involve several steps for individuals with developmental disabilities.

The MDV suggests that the art therapist consider whether materials are mediated or non-mediated during art-making. Kagin and Lusebrink (1978) define a mediator as "a tool, such as a brush or ceramic knife, which serves as a distancing agent between the individual and the materials" and provides a limit to assist in experience differentiation (p. 172). When utilized appropriately, mediators are effective in optimizing reflective distance: the experience wherein body sensations related to media properties, form, and interactions are assessed and provided meaning by the individual (Kagin & Lusebrink, 1978). For this level of reflection and processing, there must be a specific distancing between the client and direct experience with material interactions. Increases in the reflective distance lead to greater objectivity within the description of the client-media interaction experience.

Gaps and Limitations

While the ETC is unarguably an indispensable resource for practicing art therapists, there are some setbacks that remain within the framework. The spectrum-like nature of ETC levels indicates that increasing the use of one component for information processing consistently diminishes and ultimately obstructs the use of the other component entirely (Hinz, 2020). This establishes a sizable setback for the client in terms of the ability to fully integrate every ETC level in a creative encounter. Moreover, the ETC framework extensively covers the use of art materials in art therapy but does not mention foraged materials or the use of a natural environment despite the increasingly relevant practice of branching out to more natural media and spaces for art therapy treatment. This creates a rift between conventional art material use and foraged art material use as one has established guidelines and suggestions for implementation

while the other remains largely unstructured in terms of direction and planning for various materials and their properties.

Utilizing Foraged Materials in Art Therapy Practice

What is Eco-Art Therapy?

Eco-art therapy is a branch of the therapy field that merges aspects of ecotherapy and art therapy (Speert, 2016; Sweeney, 2013). As previously mentioned, ecotherapy is a form of therapy that focuses on establishing and strengthening the connection between the client and nature to achieve balance and personal well-being (GoodTherapy, n.d.b). According to Sweeney (2013), expressive modalities of art and eco-therapy seek "self-discovery, personal insight, conflict resolution, and inner healing"; additionally, eco-art therapy is able to use a combination of art and nature to bring repressed information from the psyche to conscious awareness (p. 13). Another role of eco-art therapy is to communicate nature's cycle of growth and stagnation in a way that gently defies control by humans (Johnson, 2021).

Theoretical Perspectives

As a field that focuses on the relationship between client and nature, eco-art therapy is largely grounded in humanistic, or person-centered, theory. (Johnson, 2021; Montgomery & Courtney, 2015; Sneh & Tristan, 1991; Sweeney, 2013). Eco-art therapy activities provide opportunities for clients to engage the psyche with nature and confront conditioned thoughts, beliefs, and values that may act as an obstacle to the full realization of the natural authentic self (Sweeney, 2013). Mindfulness is a primary focus of eco-art therapy due to its ability to encourage the association of clients with nature and strengthen self-awareness through connections between the mind and body (Johnson, 2021; Montgomery & Courtney, 2015). Additionally, foraged materials in art therapy can be useful for symbolic representation of one's

life as well as for transferring unconscious thoughts to the conscious psyche, which can provide clarity of previously hidden problems, solutions, or advice (Montgomery & Courtney, 2015; Sneh & Tristan, 1991). The themes of symbolic representation and newfound awareness of unconscious thoughts are characteristic of a Jungian theoretical approach to therapy. Eco-art therapy is also grounded in phenomenological theory, which is evident in the attention given to the client's lived human experience (Montgomery & Courtney, 2015).

Foraged Material Properties

Conventional Art Materials versus Foraged Materials. While foraged materials are still considered unusual tools for application in therapeutic treatment, their potential for complementing (and even surpassing, at times) the therapeutic benefits of conventional art materials is becoming increasingly recognized. Montgomery and Courtney (2015) found that implementing foraged materials into art therapy practice had the potential to take participants to a heightened level of association and emotion that did not occur with conventional materials. This may be attributed to the fact that many foraged materials, specifically plants, hold special symbolic and cultural meanings such as growth and transformation (Montgomery & Courtney, 2015; Sneh & Tristan, 1991). Similarly, Chang and Netzer (2019) noted: "Expressive mediums serve as environments in which sensory interactions and personal transformation (as reflected in the transformation of the art object) can occur in many ways, inseparably from the inherent properties of the materials" (p. 153). Even if conventional art materials do not necessarily have the same symbolic connotations as foraged materials, the combination of the two can also be instrumental in engaging both components in an ETC level (Johnson, 2021). However, depending on the purpose of the treatment intervention, one type of medium may serve the client more effectively than the other.

Chang and Netzer (2019) conducted a study wherein nine participants expressed a facet of work-life in one artwork with conventional art media and one artwork with foraged materials. The study explored how the process of foraged materials in creative expression, when facilitated indoors, could be beneficial to urban adults with job-related stress who lacked opportunities for exposure to natural environments. Participants were given a choice of "graphite and color pencils, an eraser, crayons, watercolors, and paper" to complete the conventional material artwork and "leaves, seeds, rice, various beans, flowers, nutshells, seashells, handmade paper, blueberries, teas, vine charcoals, stones, branches, cinnamon sticks, and natural linen thread" for completion of the foraged material artwork (p. 156). The researchers ultimately found differences in experience with conventional versus foraged materials based on associations with memories of childhood artmaking and sensory-stimulating qualities (e.g., kinetic, visual, olfactory, and textural) of foraged materials. Conventional materials were found to cause literal illustration and cognitive conceptualization while foraged materials elicited positive affect, spontaneity, imagination, and playfulness. Furthermore, the use of unconventional foraged materials resulted in increased symbolism and intuitive insightful thoughts and renewed perspectives on the integration of personal and work lives.

Recommendations. There are multiple factors to consider when utilizing foraged materials in a therapy room. Firstly, many foraged materials are known to create a mess so it is important that the therapist be able to accommodate and somewhat contain the mess within the therapeutic space (Montgomery & Courtney, 2015; Swank et al., 2020). This may be done by having a non-carpeted floor, removable rug, newspaper, or a drop cloth or tarp that can cover the floor (Montgomery & Courtney, 2015; Swank et al., 2020). The literature also mentioned the unpredictable nature of foraged materials and natural environments and advised that the therapist

be prepared to address situations (i.e. plants dying or effects of unexpected weather) with clients (McMaster, 2013; Swank et al., 2020). Furthermore, foraged materials have the potential to trigger client allergies; therefore, it is suggested that the therapist have alternative foraged materials on hand in case of allergens (McMaster, 2013; Montgomery & Courtney, 2015; Sneh & Tristan, 1991; Swank et al., 2020). Lastly, as with any tool utilized in therapeutic treatment, the therapist must already be comfortable and familiar with all foraged materials that they plan to incorporate into a session (Lusebrink, 1990; Swank et al., 2020).

Examples of Interventions

Sand Tray. Tornero and Capella (2017) conducted a study that examined the effect of sand play with a sand tray on children between the ages of seven and ten years old that had been sexually abused. Sand tray therapy involves the use of a tray of sand and a variety of figurines to place in the sand so that the client's fantasy world can be created. The use of figurines and sand communicates the client's worldview and reality while the parameters of the sand tray provide a safe, contained space to share and explore different themes in the sand tray. Sand has an important role in treatment, especially in developing the story setting; clients are able to shape the sand to construct natural elements and structures. Additionally, the nature of sand play allows clients to control and alter their negative experiences.

Theory. The purpose of sand tray therapy is to create a visual representation of the client's inner world using symbolic figurines and storytelling (Tornero & Capella, 2017). This form of therapy is intended to promote mental and physical well-being by allowing clients to choose how to represent their stories and regain control over their experiences. Elements of fantasy and reality emerge in the form of different themes as the client's storyline progresses.

The emphasis on symbolism and the use of themes to further understanding the client's inner world, experiences, and perspective is a hallmark of the Jungian therapeutic approach.

Materials. The utilized sand tray measured 46 cm wide, 69 cm long, and 5 cm tall in accordance with recommended sand tray measurements (Lowenfeld, 1979; Oaklander, 2001; Tornero & Capella, 2017). Furthermore, the tray must be blue so that when sand shifts in the box, the blue acts as a waterline or skyline (Mathis, 2001; Tornero & Capella, 2017). A broad variety of figurines were provided for clients to have the choice of which characters would be featured in their narrative.

Structure and Goals. The study consisted of three sand tray sessions that took place over the course of six months of psychotherapy treatment. The first session occurred at the beginning of the psychotherapy treatment, the second after three months of treatment, and the third at the six-month treatment mark. Each session lasted 50 minutes, although at times the sand play did not last for the full duration of the session. At the beginning of each session, the client was introduced to the sand tray and asked to create a world or story of their own in the sand with the provided figurines. The analyzed results consisted of sand play behaviors and content that occurred during psychotherapy treatment. Tornero and Capella (2017) identify the main goals of the study: empowering clients to take back control over their experiences of sexual abuse and providing a sensory experience that offers reconnection with the body to promote wellbeing.

Outcomes and Benefits. Violence was a central theme in clients' sand tray narratives, although it was presented differently across treatment phases. Tornero and Capella (2017) found a number of other themes among participants:

> Threatening environments (hostile and dangerous surroundings), safety measures (to defend against threats or danger), social control (authority and public order),

> transformation (characters that shift from bad to good or that die and are reborn), family (dynamics and social roles) and nourishment (feeling full or hungry). (p. 8)

Throughout psychotherapeutic treatment, sand tray environments became more organized and safety-oriented while figurines demonstrated the ability to apprehend threats and formulate a positive and constructive solution. Another common theme was a yearning for safety, protection, and care as clients were able to work toward conflict resolution through fantasy narratives. The researchers reported "shaping, pouring, burying or hiding, and digging" as commonly utilized behaviors among clients (Tornero and Capella, 2017, p. 5). Furthermore, feelings of fear, confusion, anger, self-reproach, sadness, loneliness, hopelessness, shame, and anxiety emerged in relation to catastrophic thinking, physical illness, and pain from bodily injury. Throughout the six months of treatment, it was also noted that clients preferred to stick to the same types of figurines, although the client-figurine and figurine-figurine interactions differed in each phase of treatment. The first sand tray session resulted in stagnant play, during which the figures remained static throughout the storyline. During the second session, as the storyline was developed, scenes featured movement, action, speech, sounds, and emotional responses. In the third session, clients' storylines demonstrated an increase in positive interactions regarding collaboration, safety, and care to protect and support figurines.

Throughout the course of treatment, clients' stories featured an increase in positive feelings that correlated with specific situations. The primary feelings were affection, trust, and happiness and were emotionally linked to and grounded within the sand tray environment. The researchers noted that holding sand acted as a coping skill for controlling emotions during conflicts in the storyline by supplying a sensory-rich experience that has been proven to encourage clients' overall wellbeing (Gil, 2006; Oaklander, 2001; Tornero & Capella, 2017).

The increased dynamic of the storyline promoted the use of symbolism to portray the topic at hand and resulted in an emotional release for the client. Overall, the study reiterated the therapeutic effectiveness of sand play for treating sexual abuse by promoting positive change in emotion and providing a way for therapists to monitor and explore clients' engagement with and elaboration on symbolic meanings.

Challenges and Limitations. The study follows clients over six months of treatment rather than a full course of treatment; additional studies are necessary for an examination of the benefits of sand play throughout the entire process of psychotherapy treatment. Furthermore, due to the general analysis of client cases, an in-depth look into each client's specific case was not performed. This indicated that the sexual trauma framework in the study may have skewed data analysis and partially obscured the identification of individual differences in trauma or development that may have otherwise occurred during sand play.

Ikebana. Sneh and Tristan (1991) provided unique insight into the therapeutic use of the Japanese art of Ikebana to communicate a client's unique story through nature. Ikebana is defined as the artful arrangement of flowers, branches, and leaves "that seeks to represent the harmony between man and nature" and "aims to present the universe in a balanced form of three natural forces: heaven, humans, and earth" (Sneh & Tristan, 1991, p. 16). Foraged materials are used to embody a client's current place in life and support self-expression, which promotes the client's introspection into the dialogue between foraged materials and human feelings. As clients gain self-awareness and portray their newfound self-knowledge, their personal freedom is enhanced and they are permitted to grow. This journey to achieve self-growth is comparable to plant growth; the opportunity to depict such growth with foraged materials creates a secure environment for exploring different ways of being.

Theory. Ikebana is an eco-art therapy intervention that encompasses the symbolic representation of an individual's personal process of growth and changes through the arrangement of foraged materials. Clients are able to correlate materials with inner feelings, which leads to the transformation of unconscious thoughts into the conscious psyche. Sneh and Tristan (1991) noted that gaining perception of one's previously unconscious thoughts creates the opportunity for illumination of problems or resolutions and can provide direction to a more satisfactory lifestyle. Overall, the focus of Ikebana is to foster self-awareness and communicate self-knowledge; the theme of self-awareness for personal growth and individual freedom is a hallmark of humanistic, or person-centered, theory.

Materials. The researchers recommend that a broad variety of foraged materials (e.g., flowers from greenhouses or gardens, fresh branches, dry branches, and foliage) be available to clients. Provided materials should also widely differ in properties such as texture, type of material, color, malleability, flexibility, and size. Foundations for Ikebana arrangements can include traditionally used needle holders or Oasis blocks or containers. Additionally, it is suggested to have physical or photographed examples of Ikebana available to stimulate client creativity and understanding of possibilities.

Structure and Goals. The session starts by displaying any examples of Ikebana that the therapist may have to demonstrate various creative options. The client is then offered the selection of materials and given the freedom to choose materials and begin arranging their piece. At this time, the therapist offers encouragement and promotes confidence in the client. The client's goal during the arrangement is to pick a theme for the arrangement (e.g., self, career, family, life situation, the past or future, or relationship) and display their innermost feelings about the theme. Ultimately, the client creates symbols that express some aspect of their world

and way of being. When the client is finished with the arrangement, they are asked to title it, describe it, and explain its significance. Sneh and Tristan (1991) stated, "The placement, size, color, shape or position of the selected plant materials are integral to the overall meaning of the arrangement. It is the client's personal interpretation of the theme that is of primary importance" (p. 19). Following the client's description of the theme and arrangement, the therapist may decide to recommend or pursue ways to assist in resolving areas of concern or accentuating positive features. The arrangement is able to be altered in any way at the client's will; the objective is to allocate time and space for resolution through self-directed change.

Outcomes and Benefits. Ikebana acts as a visual platform for the representation of a client's life and story through the significant and symbolic choice and arrangement of materials. Many human characteristics and feelings can be portrayed through plant properties; the inherent symbolism can be especially helpful for allowing the therapist to carefully approach distressing or painful subjects that otherwise may avoid direct confrontation. The client's strengths and positive personality traits can also be reinforced through recognition of the unique nature and intricate details of the arrangement as the client explores different ways of being. Empowerment is established through the client's special attention to various facets of the arrangement, which is symbolic of the client's ability to shape inner resources based on daily needs. Furthermore, the client's position as the sole creator and modifier of the expressive and one-of-a-kind arrangement fosters a sense of confidence and accomplishment.

Challenges and Limitations. There are a few setbacks to be aware of when making Ikebana with a client. The transition of thoughts from the unconscious to the conscious during the arrangement process may elicit upsetting memories or trigger trauma, thus doing the client more harm than good. The therapist should carefully consider whether Ikebana is appropriate for

a client before proceeding with the intervention. As with any use of foraged materials, client allergies should be noted and materials should be assessed beforehand to ensure allergic reactions are avoided. Lastly, it is important to ensure that the therapist does not project their own values, personal interpretations, and expressions onto the client's arrangement and lets the client explain the dialogue of the piece without interruption.

Pathworking. Johnson (2021) conducted a master's thesis research study using 'pathworking', an eco-art therapy intervention created by A'Court (2016). Pathworking involves "painting on natural materials and the installation of an outdoor sculpture...with the art pieces" (Johnson, 2021, p. 50). During the pathworking intervention, participants were asked to individually create parts of a pathway (A'Court, 2016) and subsequently constructed the pathway during two group sessions (Johnson, 2021). In the study, Johnson (2021) investigated the pathworking intervention's effect on mindfulness in six women receiving treatment for eating disorders at a recovery facility.

Theory. The focus on the enhancement of mindfulness and self-awareness of one's whole dynamic self within the here and now indicates that pathworking takes a humanistic approach to eating disorder treatment. Participants were encouraged to live in the moment and recognize emotions that were elicited during the eco-art therapy process as well as those that manifested in the artwork. Each of these facets is representative of humanism's person-centered, holistic values.

Materials and Environment. During the intervention, the researcher offered a selection of river rocks for each participant to pick from. Conventional artmaking materials were also provided: acrylic paints, brushes, and acrylic paint pens. The first group session took place in the art room at the facility, whereas the second group session started in the art room and ended up

outside on the porch behind the facility. A five-foot-long outdoor dining table was provided on the back porch for the pathway.

Structure and Goals. The eco-art therapy group sessions lasted for two days, with one 90-minute group session occurring each day. The session began with a pre-test measurement of mindfulness using the Freiberg Mindfulness Inventory (FMI). The researcher introduced a grounding exercise, then participants were asked to select a river rock and use paint to depict their interpretation of their emotions at the moment. Afterward, the art space was cleaned up and the rocks were placed to the side to dry. The next day, the second group session involved participants meeting in the art room to pick up the rocks and migrate them to the outdoor porch. Outside, the researcher facilitated the grounding exercise once more and participants worked in a group to form a path on the table with the rocks. Next, participants were asked to observe the path shape, artwork, and each participant's self-awareness experience. A group discussion with processing provided comprehension of the experience from individual and group perspectives. The group concluded with a post-test measurement of mindfulness, once more using the FMI. Johnson's (2021) directive was intended to increase mindfulness in participants and, as a result, improve self-awareness.

Outcomes and Benefits. The pathworking intervention was found to be statistically significant and led to increased mindfulness experiences among participants. Additionally, the researcher found that emotional awareness was shared between group members and that group dynamics were widely recognized. The researcher found four themes in the data: "(a) an increase in self-awareness and mindfulness, (b) experience of emotional volatility, (c) acknowledgement [*sic*] of nature's role in mindfulness, and (d) control and restriction in the art process" (Johnson, 2021, p. 50). Within the intervention, the natural river rocks represented the kinesthetic

component of the ETC and the acrylic paint represented the affective component. The merging of the two ETC elements provided the participants with the opportunity to explore somatic experiences associated with current emotions (Hinz, 2020; Johnson, 2021). Multiple participants noted awareness of the rocks' texture and weight while kinesthetically tossing and catching it in their hands and moving the brush along the rocks. It is likely that calmness and emotional awareness among participants was heightened through the usage of acrylic paint as a fluid medium in artmaking; representing the affective component of the ETC, it allowed for emotional and raw processing (Hinz, 2020). Overall, the researcher listed the outdoor environment and use of natural river rocks as canvases as the most impactful facets of the pathworking intervention. Every participant disclosed that her grounding experience and connection to the surrounding landscape were furthered by holding her selected river rock. The group sessions concluded with every participant gaining a more profound appreciation for both nature's grounding abilities and the strengthened relationship with other group members.

Challenges and Limitations. A notable limitation of the intervention conducted in Johnson's (2021) study was the inability to access a completely natural environment (such as the lawn) for the second group session because of the challenge of facility-imposed restrictions on some participants' mobility. Additionally, due to the small sample size, the statistically significant results of the study are not able to be generally applied. As the participants were enrolled in treatment during the course of the research study, they were each participating in other therapy sessions (individual, family, and group) over the same time frame; this may reduce the validity of the study. Lastly, the adult age and female gender of all six participants limits the presence of data on the benefits of this intervention for individuals of other genders and ages.

Botanical Arranging. Montgomery and Courtney (2015) provided a detailed look into Botanical Arranging (BA), a therapeutic intervention composed of research from ecotherapy, art therapy, and horticultural therapy. BA involves the use of foraged materials (plants and flowers) to create metaphorical arrangements as art products. As the client creates, they perceive the arrangement to be an individual entity that carries form and significance separate from that of the client. The therapist's role is to encourage and support the exploration of embedded themes in the art arrangement.

Theory. The BA intervention is a conglomeration of Jungian and phenomenological theories. As a nature-based and art-based therapy, BA connects with the client's whole self in the form of emotional, spiritual, kinesthetic, and psychological methods. Montgomery and Courtney (2015) maintained that "botanical products do not have a *flat* affect, but are evocative in ways that may be personal, ancestral, experiential, or archetypal in different layers of conscious and unconscious awareness" (p. 20). Jungian theory involves metaphors, archetypes, ancestral references, and both unconscious and conscious processes and therefore can be seen in the BA process. BA's attention to descriptions and interpretations of the client's lived human experience is also indicative of phenomenological theory within the intervention.

Materials. When collecting and presenting materials for the BA process, the researchers recommended using a vast array of foraged materials with different structures, varieties, and types (e.g., seed pods, leaves, flowers, vines, fruit, and budding branches) to produce "a richer, more complex visual and psychic field for the client's exploration" (Montgomery & Courtney, 2015, p. 19). Additionally, careful attention to culturally relevant foraged materials is imperative to be able to provide materials with emotional content and relation to important milestones and

individual transformation. Other supplied materials include vases or containers for arrangements, freshwater, a newspaper for the workspace, and scissors or pruners.

Structure and Goals. BA interventions are implemented in three phases. The first phase, preparation, entails the client becoming familiar with the materials and underlying philosophy inherent in the BA process. If BA is occurring in a group session, clients are encouraged to be socially interactive with each other. Before the second phase, the client must identify and state their intention for the directive. Phase two, the working phase, is when the physical act of arranging the foraged materials occurs. During this phase, the therapist must place emphasis on the lack of judgment about what the client creates. The client is encouraged to move at their own pace and accept the arrangement that materializes from their work; verbal interaction may or may not occur. During the third and final phase, observing and integrating, the piece is complete and the workspace is clean so the client can take a few steps back and examine their arrangement cognitively and affectively from a new perspective. The physical act of stepping away from the arrangement also allows the client to see it as a separate entity that exists apart from the client. The therapist then asks questions to facilitate insight about qualities or metaphors present in the arrangement. The goals of BA include self-expression, increased positive emotions, stress reduction, and connection to metaphors within the client's experience.

Outcomes and Benefits. When foraged materials are incorporated in art therapy, the client and the therapist may ascend to a level of association and feelings that are not experienced during work with non-organic, conventional art materials. Foraged materials offer the client a spectrum of expressive potential in varied color, texture, scent, symmetry, form, and scale. The client also gains an increased self-awareness and enhanced affective state wherein stress is decreased and energy is restored. Furthermore, the BA intervention is easily transported,

applicable during every season, and involves minimal setup and cleanup, it offers an opportunity for a wide range of functions.

Challenges and Limitations. When working with foraged materials it is important to be aware of client allergies and examine materials to avoid triggering any allergic reactions. Additionally, difficult and unprocessed memories or trauma may be triggered during a reflection on the arrangement; clients must be notified of the potential for emotionally challenging situations during the process. Finally, the therapist must be aware of any personal projections of the client's arrangement and refrain from interpreting the meaning of the arrangement for the client.

Sensory Still Life. McMaster (2013) proposed a Sensory Still Life intervention be incorporated into a nature art therapy group for individuals diagnosed with dementia in a long-term residential facility. The intervention was designed to be implemented in one group session as part of an ongoing nature art therapy group that meets between one and three times a week. Nature art therapy is described as art therapy sessions with foraged materials incorporated into treatment.

Theory. The Sensory Still Life intervention involves a humanistic or person-centered approach to therapeutic treatment. This is demonstrated through the intervention's primary focus on empowerment of the individual and efforts to maintain the autonomy of each group participant while still encouraging feelings of belonging and purpose among the group.

Materials and Environment. Foraged materials of various shapes, sizes, textures, smells, and colors should be provided for clients. McMaster (2013) suggested including real and fake flowers, leaves, plants with strong scents (e.g., mint, potpourri, lemon balm), objects with notable texture (e.g., smooth and rough rocks, bark, pinecones, feathers), auditory objects (e.g.,

dried pods or hollow gourds), and edible objects (e.g. fruit or nuts). Bowls, vases, oil pastels and pastel paper, or a circle drawing on large paper are additional required materials for the intervention. The session would take place in a safe, accessible outdoor environment.

Structure and Goals. The nature art therapy group would be closed-membership with up to six participants if clients are between early and moderate stages of dementia and two participants if clients are between the moderate and later stages. Each group session would last 45 minutes. The Sensory Still Life intervention was created for incorporation into one nature art therapy group session. The session begins with a walk around the environment so clients can scavenge for foraged materials that appeal to them. Next, the foraged materials are passed around the group as the group members explain why they picked the foraged materials they picked, relative to sensory appeal. Any inedible foraged materials can be selected by clients to place in the still life area. Once the foraged materials are placed, group members will use the pastels to draw their favorite angle of the still life. Clients that are wary to start drawing can be reminded that they do not need to draw the foraged material arrangement in front of them; rather, they can depict how they are inspired by the colors, textures, shapes, and other properties of the foraged materials in the still life. Additionally, a circle drawing can be used for the client to fill the circle in with the objects they see. After the drawing, a group discussion occurs and the therapist photographs the Sensory Still Life to document, then waits until all clients have exited the area to deconstruct the still life. The goals of the Sensory Still Life intervention are to increase sensory stimulation in the target population (individuals with dementia) and facilitate group connection.

Outcomes and Benefits. After the Sensory Still Life takes place, it is anticipated that clients will have experienced an increase in autonomy, enhanced social skills, and strengthened cognitive and motor skills. Moreover, clients will have a heightened connection to and respect

for nature. Exposure to foraged materials and a natural environment is expected to increase well-being and foster belonging and purpose in clients.

Challenges and Limitations. Foraged materials and natural environments can be unpredictable, so it is important to remember that advanced planning may be difficult with outdoor directives. Weather especially can control access to the environment and alter the growth of various plants. Additionally, client allergies must be noted and care must be taken to avoid exposure to allergens within foraged materials or the outdoor environment.

Conclusion

Foraged materials are instrumental elements in nature therapy, horticultural therapy, and ecotherapy practice. The literature identified foraged materials as locally available materials from the surrounding natural environment (Gragert, 2016; Swank et al., 2020) as well as seeds, transplanted plant material, plant propagation, and fresh-cut flowers and plants (Epstein & Greenberger, 1990; Ferrini, 2003; Fetherman et al., 2005; Montgomery & Courtney, 2015). Foraged materials were most often used therapeutically in gardens (Ferrini, 2003; Hewson, 2001; Salomon, 2002; Wichrowski, 2006), enabling gardens (Ferrini, 2003), and other natural outdoor environments (Ferrini, 2003; Hewson, 2001; Messer, 1996; Monroe, 2015; Roe & Aspinall, 2011; Sabra, 2016). Controlled structures (namely greenhouses, indoor therapy rooms, sunrooms, and hospitals) were preferred settings when factors such as availability, accessibility, privacy, weather conditions, and safety prevented the use of outdoor environments (Chang & Netzer, 2019; Ferrini, 2003; Hewson, 2001; Mattson et al., 1993; Salomon, 2002; Stamm & Barber, 1999; Swank et al., 2020; Wichrowski, 2006; Williams, 1989). The literature stressed that clients' personal factors (i.e., allergies, inability to participate, resistance, or previous interactions or lack thereof with foraged materials or a natural environment) must be taken into

consideration when selecting a setting for foraged material use (Chang & Netzer, 2019; Roe & Aspinall, 2011).

Client-centered theory and person-centered theory (as branches of humanistic theory) were found to be the most popular approaches to using foraged materials in therapy because of the focus on mindfulness, the psyche, and the natural authentic self (Epstein & Greenberger, 1990; Hewson, 2001; Johnson, 2021; Monroe, 2015; Montgomery & Courtney, 2015; Sabra, 2016; Salomon, 2002; Sneh & Tristan, 1991; Sweeney, 2013; Wichrowski, 2006). Cognitive-behavioral therapy was the next most-mentioned approach (Autry, 1986; Fetherman et al., 2005; Monroe, 2015; Roe & Aspinall, 2011; Sabra, 2016; Salomon, 2002), although the literature also identified interpersonally (Sabra, 2016) and phenomenological (Montgomery & Courtney, 2015) theoretical approaches as ideal methods for incorporating foraged materials with consideration for the client's lived human experience. Overall, the use of foraged materials in therapy facilitated mindfulness through grounding and multisensory stimulation as well as improvements in awareness and expression of feelings, personal insight and focus, and self-esteem (Autry, 1986; Epstein & Greenberger, 1990; Ferrini, 2003; Fetherman et al., 2005; Hewson, 2001; Monroe, 2015; Sabra, 2016; Salomon, 2002; Sneh & Tristan, 1991; Stamm & Barber, 1999; Swank et al., 2020; Sweeney, 2013; Wichrowski, 2006; Williams, 1989). The literature additionally reported changes to external dynamics; foraged material use was found to increase socialization and positively modify behavior while reducing negative behaviors (Autry, 1986; Fetherman et al., 2005; Monroe, 2015; Roe & Aspinall, 2011; Sabra, 2016; Salomon, 2002; Swank et al., 2020; Williams, 1989). Lastly, the literature identified the therapeutic use of foraged materials as an effective method for bringing repressed material from one's psyche to conscious awareness and symbolically representing one's unique life through themes such as

growth and transformation (Montgomery & Courtney, 2015; Monroe, 2015; Sneh & Tristan, 1991; Stamm & Barber, 1999; Swank et al., 2020; Sweeney, 2013; Wichrowski, 2006; Williams, 1989).

The ETC, as a framework for conventional art material use in therapy, provides a description of different levels of information processing that can be accessed through the use of various media (Hinz, 2020). The MDV continuum offers a visual explanation of how conventional art material is separated based on media properties (Kagin, 1969; Lusebrink, 1990). However, neither framework addresses the use of foraged materials or a natural outdoor environment in therapy which creates a distinctive division between structured conventional art material guidelines and unstructured suggestions for foraged material use. The literature suggested that a combination of foraged materials and conventional art materials can promote further engagement with ETC components on a higher level (Johnson, 2021; Montgomery & Courtney, 2015). Additionally, a need for the development of policies and procedures to record foraged material activity objectives, techniques, and outcomes in therapy as well as the effects of working with foraged materials in an outdoor environment (Chang & Netzer, 2019; Fetherman et al., 2005). Ideally, the application of such research would result in a maximization of the benefits that each unique client can gain from the incorporation of foraged materials into therapeutic practice. This research aims to address that gap in the literature by contributing supplementary research on the properties of various foraged materials when used with conventional art materials.

Chapter III

Methods

Study Design

This research was conducted in the form of an arts-based experiential research study using a Likert-type rating scale to document each artmaking session. An arts-based experiential research study uses artistic skills, materials, and processes to gather data and facilitate better understanding of a particular experience or set of experiences so that the researcher is equipped with sufficient knowledge to make well-informed recommendations for future application (Boston University, n.d.; IGI Global, n.d.). The purpose of this study was to determine the therapeutic and artistic properties of different foraged materials in an art therapy context.

Location of Study

The majority of this study took place at the researcher's residence. However, the two sessions involving stoneware and earthenware clay occurred at IUPUI's Eskenazi Fine Arts Center ceramics and sculpture building located in Indianapolis, Indiana.

Time Period for Study

Data collection was from January 2022 to February 2022 for five weeks.

Participant

The researcher is also the participant. I am a 24-year-old Caucasian female with over ten years of artistic training and expertise. I received a minor in art with a focus in ceramics and have experience utilizing foraged materials with my professional artistic practice.

Experiential Methods and Procedures

Each session included materials from eight pre-arranged groups (see Appendix C) and included artmaking and photographic documentation of artwork, rating of material properties on

the Likert scales, and narrative documentation of the artmaking session. The Likert scale properties were selected for measurement according to the standard and subjective qualities of foraged materials that have the potential to influence therapeutic efficacy. Foraged materials were grouped based on general appearance and properties (i.e., fluid versus static, color, texture, size) to create groups with a diverse array of materials.

I used a Word document to record notes and thoughts as well as printed Likert-type scales (see Appendix A) ranging numerically from 1 (lowest) to 5 (highest) to measure and report data for each foraged material. Foraged materials were gathered from the environment, purchased from stores, donated by peers and faculty, and accessed from the researcher's personal collections. A complete list of foraged materials used in the study has been included in Appendix B. Additionally, pruners, gardening gloves, and buckets were used to collect foraged materials from the outdoors, as recommended by Blankespoor and Gemma (2019). Project ideas were developed prior to artmaking sessions to allow more time for attention to foraged material properties and more thorough results in the end-of-session property rating scales.

Session 1

Number of artmaking sessions: 1

Foraged material group: 1

Additional materials required: hot glue gun, hot glue sticks, white acrylic paint, a black permanent marker, a paint palette, a paintbrush, a plastic cup for paint water, and paper towels.

Session 2

Number of artmaking sessions: 1

Foraged material group: 2

Additional materials required: hot glue gun, hot glue sticks, paintbrush for Mod Podge, Mod Podge, a piece of cardboard measuring 15 inches long and 11 inches wide, mounting kit for mounting insects (includes wax paper, mounting foam, pins, glass slides, and forceps), watercolor paper measuring 15 inches long and 11 inches wide, watercolor brushes; watercolor paints, water, a plastic cup for paint water, a paint palette, and paper towels.

Session 3

Number of artmaking sessions: 1

Foraged material group: 3

Additional materials required: two yards of muslin or other white fabric for a backdrop

Session 4

Number of artmaking sessions: 1

Foraged material group: 4

Additional materials required: watercolor brushes, 11 in x 15 in watercolor paper, watercolor paints, paper towels, a paint palette, a plastic cup for paint water, and a spoon.

Session 5

Number of artmaking sessions: 2

Foraged material group: 5

Additional materials required: spoon, water, water cup, rib tool, kiln, reduction glazes, pin tool, paring knife, writing tool, rolling pin or similar object for rolling clay, and a bamboo brush.

Session 6

Number of artmaking sessions: 1

Foraged material group: 6

Additional materials required: spoon, plate, paintbrushes, acrylic paint, paper towels, a plastic cup for paint water, a paint palette, and five sheets of 11 in x 15 in watercolor paper.

Session 7

Number of artmaking sessions: 2

Foraged material group: 7

Additional materials required: rib tool, water, water cup, pin tool, spray bottle, containers for mud/dirt/water, spoon to mix mud, hot glue gun, hot glue, and bamboo brush or paintbrush.

Session 8

Number of artmaking sessions: 1

Foraged material group: 8

Additional materials required: paper or plastic mask, hot glue gun, hot glue sticks, paintbrush for Mod Podge, Mod Podge, and paper towels.

Data Analysis

Likert scale results and additional notes for each foraged material will be reported in a narrative analysis at the conclusion of the data collection period. Materials used more than once will be reported and then averaged. Additionally, exceptions and unique qualities of materials were noted.

Chapter IV

Results

Each artmaking session began once the required materials were gathered. While artmaking took place, additional notes regarding materials were recorded when applicable. Once the artmaking was completed, a copy of the Foraged Material Property Rating Scales (see Appendix A) was filled out for each material. The workspace was cleaned up and the finished art piece was photographed for documentation. Afterward, the property scores for each material were entered into an Excel table created for that material group. If the material being rated was used in more than one foraged materials group, property scores were also recorded in a separate Excel table where they were averaged to determine an overall property rating score for the material.

Artmaking Session Results

Session 1: Stick Fairies

Artmaking process: (1) The stick was painted with white acrylic paint and left to dry for about ten minutes. (2) Permanent marker was used to draw facial features on the stick. (3) Seeds and leaves were glued onto the stick for clothing and decoration. (4) Leaves were glued onto the fairy's back to form the wings.

Additional Notes: Some sticks used in artmaking were lopsided which made it difficult to orient them right side up when painting and gluing. Winter weather reduced the accessibility of some materials; many "fresh" outdoor leaves were already dead and it was difficult to find good-sized leaves that were in adequate condition. Boxwood leaves were picked as other fresh leaves since boxwood shrubs do not lose leaves in winter weather. See Table 1 for the material property rating results.

Table 1

Material Property Ratings for Session 1

Material	Accessibility	Affect Reaction	Availability of Different Sizes	Awareness and Experience of Feelings	Fluidity	Fragility	Kinesthetic Value (Range of Motion)	Malleability	Metaphor (Relation to Life)	Mindfulness	Project Manageability (Anticipated Success)	Sensory Stimulation	Stress Reduction	Versatility
Seeds	3	3	2	3	1	2	2	1	3	4	5	2	3	1
Fresh leaves	1	4	4	4	1	3	3	2	5	5	5	3	4	4
Sticks	5	2	5	2	1	2	2	1	1	2	5	4	2	3

Session 2: Diorama

Artmaking process: (1) Watercolor paints were used to depict a river on watercolor paper and set aside to dry for about ten minutes. (2) Foraged materials were arranged in various ways until an ideal arrangement was created. (3) Once the watercolor paper was dry, it was glued to the cardboard. (4) The foraged materials were placed and glued onto the cardboard according to the previously selected arrangement.

Additional Notes: Boxwood leaves were the only fresh leaves available to be foraged outdoors due to the winter weather. Additionally, the insects that were mounted had to be rehydrated before mounting and were extremely brittle. See Table 2 for the material property rating results.

Table 2

Material Property Ratings for Session 2

Material	Accessibility	Affect Reaction	Availability of Different Sizes	Awareness and Experience of Feelings	Fluidity	Fragility	Kinesthetic Value (Range of Motion)	Malleability	Metaphor (Relation to Life)	Mindfulness	Project Manageability (Anticipated Success)	Sensory Stimulation	Stress Reduction	Versatility
Insects	2	3	3	3	1	5	2	2	4	5	3	2	3	1
Plant clippings	4	4	2	3	1	2	3	2	5	5	4	3	4	3
Sheet moss	3	4	3	3	1	4	4	3	2	4	4	4	3	2
Reindeer moss	3	4	2	4	1	2	4	2	1	3	3	4	3	2
Bark	5	2	5	3	1	2	1	1	1	2	4	3	3	3

Session 3: Nature Mandala

Artmaking process: (1) A bedsheet was placed on the floor to create a monochromatic background. (2) Each foraged material was placed out so that it was easy to see and select from the various material types. (3) The mandala creation began in the middle of the space and evolved in an outward pattern. (4) The mandala's materials and patterns were constantly replaced and shifted according to the researcher's preference.

Additional Notes: See Table 3 for the material property rating results.

Table 3

Material Property Ratings for Session 3

Material	Accessibility	Affect Reaction	Availability of Different Sizes	Awareness and Experience of Feelings	Fluidity	Fragility	Kinesthetic Value (Range of Motion)	Malleability	Metaphor (Relation to Life)	Mindfulness	Project Manageability (Anticipated Success)	Sensory Stimulation	Stress Reduction	Versatility
Stones	5	3	2	3	1	1	1	1	2	3	5	2	3	3
Pressed leaves	2	3	4	4	1	5	2	1	4	4	5	2	5	2
Shells	3	4	4	4	1	2	1	1	3	4	5	4	4	1
Acorns	3	2	2	2	1	1	1	1	3	2	4	2	2	2
Flowers (fresh-cut)	2	2	5	5	1	4	3	2	5	5	5	5	5	5

Session 4: Watercolor Painting

Artmaking process: (1) Each berry was placed in a different spot in the paint palette and crushed with a spoon to release the juice. (2) The berry juice was applied to the watercolor paper using watercolor brushes and sea sponges. (3) Small amounts of water were added to lighten the berry juice and additional layers were added to the painting. (4) The watercolor paints were mixed and applied to the painting using pine needles and grass.

Additional Notes: The pine needles did not hold paint well and were too brittle to transfer paint to paper without breaking. Additionally, brushing paint directly onto the materials was found to transfer paint to paper better than dipping the materials in paint. The fluidity of the berries fluctuated depending on how compressed they were. See Table 4 for the material property rating results.

Table 4

Material Property Ratings for Session 4

Material	Accessibility	Affect Reaction	Availability of Different Sizes	Awareness and Experience of Feelings	Fluidity	Fragility	Kinesthetic Value (Range of Motion)	Malleability	Metaphor (Relation to Life)	Mindfulness	Project Manageability (Anticipated Success)	Sensory Stimulation	Stress Reduction	Versatility
Berries	2	3	3	2	4	3	2	4	2	3	3	5	3	3
Pine needles	5	1	2	1	1	5	1	1	1	2	2	2	1	1
Sea sponges	3	3	2	2	1	2	4	2	2	2	3	3	2	3
Water	5	4	5	4	5	1	5	1	3	5	4	2	3	4

Session 5: Pressed Scenery Collage

Artmaking process: Session I. (1) Roughly 3lbs of kneaded stoneware clay was rolled out until it was about ½ inch thick. (2) A 10.5 inch long x 5.5 inch wide slab was cut out and

edges were smoothed. (3) Foraged materials were selected and adjusted on the slab to create the scene. (4) Materials were lifted and a medium-sized layer of liquid clay (slip) was spread under the placement area. (5) Materials were placed over the slip and gently pressed down using the back and sides of a spoon. (6) A thin layer of slip was brushed over the top of the pressed leaves, pressed flowers, and fresh leaves. (7) The slip was left to dry for about ten minutes while excess slip was gently scraped away from the edges of the materials. (8) The materials were carefully lifted off the slab one by one. (9) Any remaining excess slip was removed from the piece. (10) The piece was left to dry and was later fired in a bisque kiln.

Artmaking process: Session II. (11) Once the piece was out of the bisque kiln, tenmoku glaze was brushed onto the imprints and the top of the piece was covered with a celadon glaze. (12) The glazed piece was fired in a reduction kiln.

Additional Notes: The sheet moss left many small remnants on the clay that had to be individually removed. Fresh leaves were removed from an indoor houseplant because outdoor plants were limited due to winter weather. See Table 5 for the material property rating results.

Table 5

Material Property Ratings for Session 5

Material	Accessibility	Affect Reaction	Availability of Different Sizes	Awareness and Experience of Feelings	Fluidity	Fragility	Kinesthetic Value (Range of Motion)	Malleability	Metaphor (Relation to Life)	Mindfulness	Project Manageability (Anticipated Success)	Sensory Stimulation	Stress Reduction	Versatility
Sheet moss	3	4	3	3	1	4	4	3	2	4	4	4	3	2
Fresh leaves	1	4	4	4	1	3	3	2	5	5	5	3	4	4
Pressed leaves	2	3	4	4	1	5	2	1	4	5	4	3	5	2
Pressed flowers	2	4	4	3	1	5	2	1	4	5	4	3	5	2
Mushrooms	2	4	3	2	1	3	2	2	3	4	4	3	4	3
Stoneware clay	3	4	5	5	3	1	5	5	4	5	4	3	5	5

Session 6: Foraged Material Printmaking

Artmaking process: (1) One foraged material (reindeer moss) was selected and painted on one side. (2) The reindeer moss was pressed onto one sheet of paper to leave a print. (3) The reindeer moss was lightly dipped in paint and applied to the paper once again. (4) The application of paint to paper with the foraged material occurred several times to explore the different prints left by reindeer moss. (5) The paper was set aside to dry. (6) The aforementioned steps were repeated for each remaining foraged material. (7) On the final sheet of paper, a print collage was created with all of the foraged materials used to apply paint.

Additional Notes: The Spanish moss left many small pieces on the workstation and the paper which prompted feelings of frustration. See Table 6 for the material property rating results.

Table 6

Material Property Ratings for Session 6

Material	Accessibility	Affect Reaction	Availability of Different Sizes	Awareness and Experience of Feelings	Fluidity	Fragility	Kinesthetic Value (Range of Motion)	Malleability	Metaphor (Relation to Life)	Mindfulness	Project Manageability (Anticipated Success)	Sensory Stimulation	Stress Reduction	Versatility
Fake flowers/ leaves	5	2	3	2	1	1	4	2	2	2	4	2	2	2
Pinecones	5	4	2	4	1	2	1	1	3	4	4	4	4	1
Rocks	5	3	5	2	1	1	1	1	2	4	3	2	3	3
Grass	5	3	3	2	1	3	4	2	1	3	3	2	4	2
Reindeer moss	3	4	2	3	1	2	4	2	1	3	3	4	3	2
Spanish moss	3	3	2	2	1	4	4	2	1	2	3	4	3	2

Session 7: Natural Pot With Mud Painting

Artmaking process: Session I. (1) Roughly 3lbs of kneaded earthenware clay was gathered and separated into baseball-sized chunks. (2) One chunk was selected, rolled out to form a slab about ½ inch tall, and cut into a circular base 5 inches wide. (3) A pin tool was used to score marks around the top edge of the circle. (4) Another chunk of clay was rolled into multiple coils, each about ¼ inch thick and 10 inches long, and sprayed with water to avoid cracking. (5) Each coil was scored on one side with the pin tool and liquid clay (slip) was spread on the scored areas of the coil and base. (6) The scored part of the coil was adhered to the scored base and smoothed out. (7) The same score-and-slip process was completed with the rest of the coils. (8) When the coil pot was finished and smoothed out, it was set aside to dry for a day.

Artmaking process: Session II. (9) Dirt and water were collected in separate containers and mixed in another container until it was the consistency of paint. (10) A paintbrush was used to apply mud to the pot. (11) Hot glue was used to adhere lichen, Spanish moss, and seed pods to the pot.

Additional Notes: The mud had to be mixed well to get rid of dirt clumps. See Table 7 for the material property rating results.

Table 7

Material Property Ratings for Session 7

Material	Accessibility	Affect Reaction	Availability of Different Sizes	Awareness and Experience of Feelings	Fluidity	Fragility	Kinesthetic Value (Range of Motion)	Malleability	Metaphor (Relation to Life)	Mindfulness	Project Manageability (Anticipated Success)	Sensory Stimulation	Stress Reduction	Versatility
Dirt	5	4	5	4	1	1	5	3	4	4	4	5	4	3
Water	5	4	5	3	5	1	5	1	3	5	4	2	3	4
Seed pods	3	2	4	2	1	1	1	1	4	2	5	3	3	2
Lichen	3	4	4	4	1	3	4	2	2	4	4	4	4	3
Earthenware clay	3	3	5	5	3	1	5	5	4	5	4	4	4	5
Mud	3	3	5	3	3	1	5	5	2	4	3	3	3	4
Spanish moss	3	3	2	2	1	4	4	2	1	2	3	4	3	2

Session 8: Mask

Artmaking process: (1) The mask was covered in Mod Podge. (2) Sand and tea leaves were pressed onto the mask to create designs and cover the mask surface. (3) The mask was set aside for about five minutes to dry. (4) Feathers and a bone adhered to the mask with Mod Podge. (5) Wool was attached to the mask with hot glue.

Additional Notes: The wool was clumpy and difficult to separate in some areas due to not being cleaned before use. To get sand onto the mask, Mod Podge was brushed onto the surface which was then dipped into a pile of sand. Tea leaves were pressed onto other areas with Mod Podge brushed on. The mask continued to shed sand and tea leaf fragments after application. See Table 8 for the material property rating results.

Table 8

Material Property Ratings for Session 8

Material	Accessibility	Affect Reaction	Availability of Different Sizes	Awareness and Experience of Feelings	Fluidity	Fragility	Kinesthetic Value (Range of Motion)	Malleability	Metaphor (Relation to Life)	Mindfulness	Project Manageability (Anticipated Success)	Sensory Stimulation	Stress Reduction	Versatility
Sand	3	4	5	4	1	1	5	1	2	4	4	4	3	3
Wool	3	2	5	3	1	1	5	2	1	2	3	4	2	3
Feathers	3	4	5	4	1	3	3	2	2	4	5	3	4	3
Tea leaves	3	3	2	2	1	3	1	1	1	3	4	3	3	3
Bones	3	3	2	2	1	2	1	1	3	2	4	2	2	1

Combined Results

Some materials were used multiple times in different groups to examine the effects when combined with other materials. These materials were sheet moss, fresh leaves, reindeer moss, pressed leaves, water, and Spanish moss. To obtain an accurate overall property score for each material, the material's property scores from both groups were combined and averaged. Therefore, materials used in more than one group each have three property score results: one for each group depending on its performance and qualities when used with other materials in the group, and one to report the combined score of the medium's properties as a whole. See Table 9 for the combined and averaged material property rating results.

Table 9

Combined and Averaged Property Ratings for Materials Used More Than Once

Material	Accessibility	Affect Reaction	Availability of Different Sizes	Awareness and Experience of Feelings	Fluidity	Fragility	Kinesthetic Value (Range of Motion)	Malleability	Metaphor (Relation to Life)	Mindfulness	Project Manageability (Anticipated Success)	Sensory Stimulation	Stress Reduction	Versatility
Sheet moss	3	4	3	3	1	4	4	3	2	4	4	4	3	2
Fresh leaves	1	4	4	4	1	3	3	2	5	5	5	3	4	4
Reindeer moss	3	4	2	3.5	1	2	4	2	1	3	3	4	3	2
Pressed leaves	2	3	4	4	1	5	2	1	4	4.5	5	2	5	2
Water	5	4	5	3.5	5	1	5	1	3	5	4	2	3	4
Spanish moss	3	3	2	2	1	4	4	2	1	2	3	4	3	2

Chapter V

Discussion

This research aims to address the gap in literature on foraged material use in art therapy by evaluating various therapeutic and artistic properties of different foraged materials and making recommendations for application in an art therapy context. As a result, art therapists will be able to consult this research to gain the best possible therapeutic benefits from foraged material use in therapy. Each of the foraged materials was ranked between one (least) and five (most) on one of 14 property rating scales. Materials were then grouped according to the rank they received within each property rating scale.

Accessibility

Accessibility ratings referred to the ease with which each foraged material was acquired for this research. Fresh leaves were one-rated and notably difficult but eventually possible to find through foraging. These were one-rated due to winter climate. Two-rated materials were not able to be found by foraging and had to be purchased: mushrooms, pressed leaves, berries, pressed flowers, fresh-cut flowers, and insects. These were rated according to limiting factors that included winter climate, non-Midwest-native species, and the urban environment. Seeds, sheet moss, seed pods, Spanish moss, reindeer moss, lichen, wool, bones, sand, sea sponges, earthenware clay, stoneware clay, acorns, feathers, tea leaves, and shells were three-rated because although there was limited or no availability in nature due to aforementioned factors, the researcher still had cost-free access due to material donations from peers and faculty. Four-rated materials included plant clippings; there was natural access to this foraged material even though some extra exploration was required. Many materials were five-rated because of immediate access to personal hobbies and collections or an abundance in nature regardless of a winter

climate. Five-rated materials included sticks, fake flowers/leaves, pinecones, rocks, grass, dirt, water, mud, stones, pine needles, and bark. I experienced some frustration finding the one-rated materials, but that dissipated when I was more easily able to gather the four- and five-rated materials. It was also very helpful to ask around for donations, which yielded even more materials than I had originally expected to gather. When planning to search for foraged materials, it is important to be aware of the materials that are immediately accessible to ensure that a well-rounded group of materials can be gathered. Furthermore, during my research I found that accessibility is a vital factor to consider when consulting one's budget for materials, as it identifies which materials can be freely accessed through foraging and which may need to be purchased.

Affect Reaction

Affect reaction was defined as the effect of the material on the user's emotional state. Pine needles were one-rated due to a lack of change in affect. Two-rated materials, which encouraged a change in affect, included the following: wool, acorns, seed pods, fake flowers/leaves, and sticks. Some of these materials (wool and seed pods) resulted in feelings of curiosity and anticipation since I had not previously worked with them. I became aware of the change in affect when I realized that I was maintaining a steady gaze toward the material I was working with. Materials that led to slight changes in affect were three-rated: berries, sea sponges, tea leaves, bones, stones, pressed leaves, earthenware clay, mud, Spanish moss, rocks, grass, seeds, insects, and bark. While actively working with these materials I experienced general feelings of concentration and interest, which kept me engaged with the materials. Most times, the change in affect was demonstrated through a forward lean over the artmaking materials as I sat at the edge of my seat and gazed at the material I was using. Four-rated materials moderately

altered affect: water, sand, feathers, shells, dirt, water, lichen, pinecones, reindeer moss, sheet moss, fresh leaves, pressed flowers, mushrooms, stoneware clay, and plant clippings. These materials elicited noticeable and effective feelings, such as pleasure and relaxation, and resulted in a corresponding affect; my brow was slightly furrowed, and, as with the two- and three-rated materials, I was leaning over the material and maintaining eye contact with my project. Fresh-cut flowers were five-rated due to having the strongest alteration in affect. The feelings of concentration, calmness, and enthusiasm I experienced with this material lasted even after the artmaking. During work with the material, I found myself frowning in concentration with a furrowed brow and felt a clear tension in my back and neck from hunching on the edge of my seat in a focused state. My contact lenses also felt dry from staring at the materials so intently for so long. It needs to be stated that the way each material altered my own affect is a subjective experience that is unique to my lived experiences with foraged materials and my personal body language. While the feeling examples I gave were positive, there were times when I had negative feelings such as self-criticism and apprehension about my work. This either resulted in no change to affect or a deeper frown and more furrowed brow. Changes in affect can be positive or negative and may be due to a person's preference or lack thereof for specific material qualities, the setting in which the material was used, the purpose the material served, or the ways the material was interacted with by the researcher and by other materials. Observing changes in an individual's affect while they use an object can demonstrate the therapeutic efficacy of the material in addition to providing clues about the individual's inner emotional state. Being able to observe a client's affect during artmaking can provide an opportunity for the clinician to check in with the client and describe the physical reaction they are viewing. This helps the client become more familiar with how their inner emotions and feelings are presented in physical form as well

as how their current affect can offer personal insight into their emotional state. Based on my clinical experience and supporting diagnostic information from the American Psychiatric Association [APA] (2013), it can also be useful for recognizing inappropriate affect in individuals with conditions that are known to cause inappropriate affect. These include but are not limited to major depressive disorder, schizophrenia, post-traumatic stress disorder, brain damage or trauma, autism, and dementia or Alzheimer's disease. Furthermore, the presence of abnormalities in affect reaction can be indicative of defense mechanisms to protect an individual during what may be perceived as a vulnerable or undesirable situation within a therapy setting. My clinical experience indicates that addressing affect reactions, when appropriate, can be especially effective during work with individuals that have experienced trauma and are looking to rebuild or strengthen the mind-body connection, self-awareness, and personal insight.

Availability of Different Sizes

The range of sizes accessible during the foraging process for each material was rated. None of the foraged materials were rated a one since all materials naturally had slight variations in size. The following materials were rated two: plant clippings, reindeer moss, seeds, pinecones, Spanish moss, pine needles, sea sponges, tea leaves, bones, acorns, and stones. Two-rated materials were found to generally be close to the same size when foraged. Three-rated materials included: insects, sheet moss, mushrooms, fake flowers/leaves, grass, and berries. In the middle of the rating scale, three-rated materials were available in more than two or three different sizes. Fresh leaves, pressed leaves, seed pods, shells, and lichen were all rated a four due to the availability of at least four or five different sizes. At the end of the rating scale, five-rated materials included: bark, sticks, stoneware clay, rocks, dirt, water, earthenware clay, mud, sand, wool, feathers, and fresh-cut flowers. These materials were found to be available in more than

six sizes. As the number of available sizes increases, so does the number of ways the material can be incorporated into artmaking. Based on my clinical experience and research by Kagin and Lusebrink (1978), having a variety of sizes offers options for individuals with different levels of motor control and provides different textures through changes in size. Smaller-sized materials can be more easily stored in therapy spaces with limited storage and are more easily handled by small hands. Additionally, providing an assortment of material sizes increases the opportunity for satisfactory sensory stimulation in individuals with physical impairments such as blindness or hearing loss.

Awareness and Experience of Feelings

As the researcher, I was interested in exploring how materials evoked feelings. As art therapists, we understand that the materials and their variables directly impact sensory experiences and in turn, emotions can be evoked. I ranked the amount that each foraged material connected with feelings. Materials that were used in more than one group have been listed under each rating they were scored. Pine needles were rated a one, indicating that there was not a link between the handling of the material and the feelings experienced; I did not have any awareness of my feelings during or after using the material. Two-rated materials were the following: berries, tea leaves, sea sponges, bones, acorns, seed pods, Spanish moss, fake flowers/leaves, rocks, grass, mushrooms, and sticks. At times these materials were found to elicit negative feelings such as frustration and annoyance, which were mostly related to the artistic progress made during material handling. In the middle of the rating scale, the following materials were three-rated: wool, stones, water, mud, reindeer moss, sheet moss, pressed flowers, seeds, insects, plant clippings, and bark. The three-rated materials led to a more conscious awareness of positive feelings that simultaneously began to affect my perception of the experience. Water, reindeer

moss, sand, feathers, pressed leaves, shells, dirt, lichen, pinecones, fresh leaves, and pressed leaves were each rated a four. These materials elicited feelings such as contentedness and enjoyment that increased my positive perception of the experience and led me to look back on the experience with satisfaction. The most prevalent connection between foraged material and awareness of feelings occurred with five-rated foraged materials: fresh-cut flowers, earthenware clay, and stoneware clay. When compared to the lack of awareness associated with the one-rated material, each five-rated material evoked feelings of contentedness, enrichment, satisfaction, and enjoyment that actively influenced my level of involvement with the experience and encouraged me to work with the materials again to regain the previous sense of awareness. It needs to be stated that this ranking is subjective to my lived experiences, sensory preferences, and historical connection to materials.

Fluidity

Materials were assessed based on the ability to flow freely meaning that the material had more liquid or fluid properties. All materials without the ability for fluidity were rated one: insects, bark, pressed leaves, pressed flowers, fresh leaves, mushrooms, seeds, sticks, fake flowers/leaves, pinecones, rocks, grass, reindeer moss, Spanish moss, sheet moss, plant clippings, dirt, seed pods, lichen, stones, shells, acorns, sand, wool, feathers, tea leaves, fresh-cut flowers, bones, pine needles, and sea sponges. These materials remained static while being handled and were easily attached to other materials in the project. There were no two-rated materials with limited potential for fluidity. Mud, earthenware clay, and stoneware clay were three-rated materials due to the present moisture and fluidity in the material despite it being mostly solid. Berries were the only four-rated materials due to the emergence of fluid when compressed. At the high end of the rating scale, water was five-rated because of its complete

fluidity. While it was often more difficult to work with fluid materials due to their less controllable nature, I did not have difficulty to the point of frustration and enjoyed working with more fluid materials. This was likely because of my previous experiences with watercolor which prepared me to use fluid foraged materials in art; I was able to control the fluid materials well, which allowed me to maintain emotional awareness and regulate emotions at the same time. However, the use of fluid materials may not be appropriate for some populations. Screening should be conducted to identify those that do not have previous experience with fluid materials in art and gauge for co-occurring factors that may inhibit the therapeutic effect of working with fluid materials. Based on research by Hinz (2020), younger children and individuals with high levels of anxiety or hyperactivity, low self-esteem, issues with anger and frustration management, and limited or impaired motor control should be carefully assessed to determine whether it is appropriate to use high-fluidity materials in art. Notably, using a smaller amount of fluid materials may increase the individual's ability to control the material; additionally, there are ways to decrease the amount of fluidity in some materials. According to my personal clinical experience, an example of this would be allowing stoneware or earthenware clay to sit uncovered until it dries enough to reach an ideal amount of moisture and fluidity.

Fragility

The breakability of each foraged material was assessed. One-rated materials, identified as very difficult or impossible to break without the use of tools, included the following: water, sand, wool, stones, acorns, dirt, water, seed pods, earthenware clay, mud, fake flowers/leaves, rocks, and stoneware clay. These were easy materials to handle and work with because there was little to no concern about whether interaction with my hands, the table surface, and other materials would cause them to break. Materials that could be broken with difficulty were two-rated: sea

sponges, bones, shells, pinecones, reindeer moss, sticks, plant clippings, and bark. When working with these materials, I was aware of the potential of breakage but was not overly conscious about how I was handling them. Three-rated materials included: berries, feathers, tea leaves, lichen, grass, fresh leaves, and mushrooms. Mostly fragile materials were four-rated: fresh-cut flowers, Spanish moss, and sheet moss. Handling these often resulted in bits and pieces of the materials shedding or breaking off in my hands. Five-rated foraged materials at the end of the rating scale were rated for complete fragility: pine needles, pressed leaves, pressed flowers, and insects. These materials require very gentle handling and I found that I became frustrated when they repeatedly broke during use. The insects were especially vulnerable to breaking due to my relative inexperience with drying and mounting insects. In terms of freedom when handling materials, one-rated and two-rated materials were much easier and more pleasant to handle than four-rated and five-rated materials because there was a far smaller chance of breaking the materials. It is important to note that while each material's qualities prompted a level of mindfulness, five-rated materials required a significantly higher level of mindfulness than one-rated materials because of how carefully they had to be handled. Additionally, the fragility of some materials may differ depending on how fresh or dry they are at the time. Consideration must be given to the level of dryness in foraged materials before offering them to certain populations; based on my clinical experience, four- and five-rated materials would likely not be appropriate for use by younger adolescents and children or individuals with poor motor skills. Screening should occur for appropriateness when planning to use highly fragile materials with individuals that have high hyperactivity, low self-esteem, or high anxiety, as repeated material breakage may discourage the individual and further exacerbate symptoms.

Kinesthetic Value (Range of Motion)

The kinesthetic rating scale gauged each material's ability for motion without breaking. One-rated materials either lacked a range of motion or immediately fractured: seeds, pinecones, rocks, seed pods, tea leaves, bones, shells, acorns, stones, bark, and pine needles. Materials that had the capacity for slight movement were two-rated: sticks, pressed flowers, mushrooms, pressed leaves, berries, and insects. At the middle of the rating scale, three-rated materials were able to be moved some ways without breaking: fresh leaves, fresh-cut flowers, feathers, and plant clippings. Four-rated materials had considerable capacity for motion and included the following: fake flowers/leaves, sheet moss, grass, lichen, Spanish moss, reindeer moss, and sea sponges. Water, dirt, stoneware clay, wool, earthenware clay, mud, and sand were five-rated for having a full range of motion. Notably, most of the five-rated materials (clays, dirt, mud, and sand) are sourced from within Earth, so it is possible that in addition to maximum kinesthetic value, these materials also possess stronger-than-normal grounding capabilities that amplify therapeutic efficacy through intensified mindfulness. The increased kinesthetic value indicates that such materials should be used by individuals who are able to handle potentially large amounts of motion without losing control. Screening should also be done for each individual to determine the level of mastery with materials of high and low kinesthetic value and how it would impact the ability to use the provided materials. Based on research by Kagin and Lusebrink (1978) and Hinz (2020), low frustration tolerance in an individual can affect the therapeutic efficacy of materials with both high and low kinesthetic values depending on the individual's ability to handle materials in motion or stagnant materials without any give.

Malleability

Each material's ability to be manipulated and remain in an altered position was assessed. One-rated materials were identified as those that remained fixed and unmalleable: bark, seeds,

sticks, pressed leaves, pressed flowers, rocks, water, sand, seed pods, stones, pinecones, shells, acorns, tea leaves, bones, pine needles, and water. None of the aforementioned materials were able to be manipulated in a malleable way. The following materials were two-rated: plant clippings, fresh leaves, mushrooms, fake flowers/leaves, insects, feathers, lichen, reindeer moss, Spanish moss, grass, fresh-cut flowers, wool, and sea sponges. While these materials could be shifted slightly, they mostly returned to the initial position. In the middle of the rating scale, three-rated materials included the following: sheet moss and dirt. Berries were the only four-rated material. Mud, earthenware clay, and stoneware clay were fully malleable and five-rated. Any manipulation of these materials remained present in the material until another manipulation was made. I especially enjoyed working with highly malleable materials and noticed that keeping my hands occupied with malleable materials made it easier to stay in the present moment while working. On the other hand, using less malleable (one- and two-rated) materials did not provide as much stimulation and I was able to be more easily distracted from my work. Based on the alignment of my clinical experience with that of Hinz (2020), increased material malleability provides an opportunity for additional kinesthetic stimulation, which tends to be especially beneficial for many populations including but not limited to individuals with anxiety and/or hyperactivity, children, the elderly, and individuals with physical disabilities. It also causes an increase in mindfulness by providing more stimulation than a less malleable material. Moreover, since the Kinesthetic level is on the initial tier of the ETC, malleable materials that provide plenty of kinesthetic stimulation offer a foundation on which individuals may start to work toward achieving optimal information processing during artmaking (Lusebrink, 1990).

Metaphor (Relation to Life)

It is generally known that natural materials provide an opportunity for enhanced connection between the individual and nature as the individual is able to bestow metaphorical meaning on certain properties of a material or the material as a whole (Montgomery & Courtney, 2015; Sneh & Tristan, 1991; Stamm & Barber, 1999; Swank et al., 2020). As the researcher, I wanted to assess each material's comparability to life experiences (i.e., the cycle of nature) in an individual. One-rated materials, the least metaphorical, included the following: sticks, grass, Spanish moss, wool, tea leaves, pine needles, reindeer moss, and bark. I was unable to relate any of these materials to personal life experiences. Materials with slight metaphorical content were two-rated: sheet moss, fake flowers/leaves, rocks, mud, stones, lichen, feathers, sand, berries, and sea sponges. I was able to identify one relatable metaphor in each of these materials. For example, I found the sheet moss, which provided a foundation for the natural scene, to be representative of my status as a grounded person. Sea sponges resembled my ability to soak in my environment and the emotions of the people around me. Notably, fake flowers and leaves held similar metaphors to fresh flowers and leaves, but I did not find most of the metaphors to be as prevalent and relatable due to the synthetic nature of the materials. Three-rated materials included: pinecones, shells, acorns, seeds, mushrooms, bones, and water. While working with these materials I made two connections between the material and my personal experiences. Shells symbolized a need for shelter and safety, as well as a product of individualized growth and hard work. Mushrooms embodied the ability to find new methods for growth and the effort to restore old resources for the creation of something new. Four-rated materials had a stronger metaphorical connection: dirt, seed pods, pressed leaves, pressed flowers, earthenware clay, stoneware clay, and insects. I found three present metaphorical associations between myself and the materials. For example, stoneware clay was reminiscent of a struggle for self-confidence, my

ability to ground myself, as it was a constant through the most difficult years of my life, and a transformative creative process of identity building that is lengthy yet rewarding in the end. Pressed flowers personified the effort to honor and appreciate personal growth and experiences, the preservation of unique qualities, and my ability to apply different perspectives to my experiences and environment. Lastly, five-rated materials held the most metaphorical linkages to personal life experiences: fresh leaves, fresh-cut flowers, and plant clippings. These materials elicited four or more metaphors between the materials and my life experiences. Plant clippings symbolized past growth, the opportunity for new growth, separation from a comfort zone, and finding a new purpose. Fresh-cut flowers were representative of a product of personal growth, a blossoming identity, unique beauty that is not held to a standard, self-recognition and celebration, and the ever-changing nature of time. My engagement with the materials and artmaking process increased as I grew more self-aware, creative, and insightful with each additional metaphor I was able to identify. Metaphors also contributed to my material preferences and self-confidence in my ability to perceive what is happening within and around me as I found it easier to express my own perspectives with various foraged materials. Relatability between foraged materials and the client's lived experiences fosters increased connection and engagement with the therapeutic process (Montgomery & Courtney, 2015; Sneh & Tristan, 1991; Stamm & Barber, 1999; Swank et al., 2020). It additionally facilitates increased appreciation for one's lived experiences and culture while increasing awareness of how an individual interacts with oneself, their environment, and the people around them. This can be especially beneficial in use with resistant individuals, individuals who are experiencing life-stage transitions, and individuals who are nearing the end of life (Hinz, 2020). Identifying metaphorical connections to one's life experiences is also valuable within identity work,

multicultural work, group work, and narrative work. It needs to be stated that this ranking is subjective to my personal experiences in life and therapy, interactions with others and my environment, self-perceptions, and historical connection to materials.

Mindfulness

As a researcher, I was interested in examining the amount that the use of a material increases awareness of the present moment. Art therapists are familiar with the concept of mindfulness and how living in the present moment can have a variety of benefits such as lessening the severity and frequency of symptoms of trauma and mental illness, facilitating the identification of strong and/or difficult emotions and how they affect the body, and strengthening the ability to self-regulate and cope (Johnson, 2021; Montgomery & Courtney, 2015; Sneh & Tristan, 1991; Sweeney, 2013). Based on the alignment of my clinical experience and that of Hinz (2020), the level of stimulation provided by a certain material and its properties can promote mindfulness practices and lead to better self-insight and awareness. Materials that were used in more than one group have been listed under each rating they were scored. None of the materials were one-rated, as working with each encouraged some level of mindfulness. Two-rated materials included the following: pine needles, sea sponges, wool, bones, acorns, seed pods, Spanish moss, fake flowers/leaves, sticks, and bark. While using these materials brought me into the present moment, it was easy for my mind to wander and lose concentration. Berries, tea leaves, stones, grass, and reindeer moss were each three-rated at the middle of the rating scale. I was able to maintain mindfulness to a point, although it was difficult to remain in the moment at times. Materials that promoted moderate mindfulness were four-rated: sand, feathers, pressed leaves, shells, dirt, lichen, mud, pinecones, rocks, sheet moss, mushrooms, and seeds. While working with these materials, I was able to remain in the moment a lot of the time and it

was easy to gently return to the present when I began to think about other things. Materials that stimulated mindfulness the most were five-rated: water, fresh-cut flowers, earthenware clay, stoneware clay, fresh leaves, pressed leaves, pressed flowers, insects, and plant clippings. These materials required my full attention and kept me in the present moment nearly the entire time I worked with them. Overall, while working with the materials I found that one-rated and two-rated materials were not as effective at keeping me self-aware and engaged in the artmaking process. However, four- and five-rated materials gradually elicited a feeling of peacefulness and satisfaction with what I was creating while maintaining a high level of self-awareness. Based on my clinical experience and research, materials that promote mindfulness are useful for individuals that are attempting to ground themselves; naturally-sourced foraged materials are especially helpful for grounding because of the perceived relation to the earth (Johnson, 2021; Sneh & Tristan, 1991; Sweeney, 2013). Although anyone can gain benefits from practicing mindfulness, individuals with anxiety and/or a history of trauma would especially benefit from mindfulness practice (APA, 2013). Notably, the mindfulness ranking is subjective to my lived experiences and historical connection to foraged materials and various mindfulness practices in personal therapy.

Project Manageability (Anticipated Success)

Project manageability indicates the ability to control and amount of confidence in a material's properties and functions when one uses the material. None of the materials were one-rated due to the researcher's experience with and understanding of each material. Pine needles were two-rated due to the high potential of breakage. Berries, sea sponges, wool, mud, Spanish moss, rocks, grass, reindeer moss, and insects were three-rated for slight predictability and control. Four-rated materials were either mostly predictable, mostly easy to control, or both.

These included water, sand, tea leaves, bones, acorns, dirt, lichen, earthenware clay, fake flowers/leaves, pinecones, sheet moss, pressed flowers, mushrooms, stoneware clay, plant clippings, and bark. Materials that were considered completely predictable, completely controllable, or both were five-rated: feathers, stones, pressed leaves, shells, fresh-cut flowers, seed pods, fresh leaves, seeds, and sticks. While I personally preferred to work with materials that were more predictable, especially those I had a lot of past experience with, I also did not mind the challenge that came with working with materials of a lower project manageability rating. However, if I repeatedly experienced difficulty handling materials and applying them to the project, I became annoyed. Project manageability additionally depends on the different ways in which the material is used; there may be high project manageability in one activity and next to none in the next. Based on my clinical experience and research by Hinz (2020), each material's project manageability rating may change according to a client's unique personal factors and past experiences. Individuals should be screened to determine their past experience and current level of confidence in working with various foraged materials before they are offered materials with a low project manageability rating. Anyone with a depressive or mood disorder, low self-esteem, or a low tolerance for feelings of frustration, anger, and annoyance may not be the best candidate for using low-rated materials since the onset of negative feelings related to a perceived inability to use materials the way they prefer can hamper the therapeutic efficacy of materials (APA, 2013; Hinz, 2020). This is a subjective rating scale and will change with mastery development as well.

Sensory Stimulation (Auditory, Gustatory, Olfactory, Tactile, Visual)

Materials were rated based on the amount of sensory stimulation provided in terms of touch, taste, smell, sight, and sound. Every material offered at least 2 forms of sensory

stimulation, so there were no one-rated materials. Two-rated materials included the following: seeds, pressed leaves, fake flowers/leaves, rocks, grass, water, stones, acorns, bones, pine needles, water, and insects. Three-rated materials stimulated three senses and included fresh leaves, pressed flowers, mushrooms, stoneware clay, seed pods, mud, feathers, tea leaves, sea sponges, plant clippings, and bark. Materials that offered stimulation for four senses were four-rated: sticks, sheet moss, pinecones, reindeer moss, Spanish moss, lichen, earthenware clay, shells, sand, and wool. Five-rated materials were found to stimulate all five senses and included dirt, fresh-cut flowers, and berries. I found that although some of the four- and five-rated materials were more stimulating, the type of stimulation each material provided had more of an impact on me than the number of senses that were stimulated. This was likely due to my personal preference for tactile and visual stimulation. Even if tactile and visual stimulation were combined with other areas of stimulation within the same material, I tended to focus on the senses that best captured my attention and increased my engagement with the material. Furthermore, I noticed that increased awareness of a material's sensory properties led me to be more in the present moment and had grounding effects. My personal clinical experience and research by Hinz (2020) indicated that when using sensorily stimulating materials with a client, attention should be given to the individual's specific preference for sensory stimulation and whether they prefer using one type of sense over another. Offering materials that target preferred senses can be highly beneficial in a therapeutic setting. Additionally, the APA (2013) suggested that individuals with anxiety disorders, physical disabilities such as blindness or Deafness, history of trauma, autism spectrum disorders, or sensory issues should be carefully assessed before introducing stimulating materials to ensure that the material is appropriate for use with the client and will provide therapeutic benefits. Interactions between two or more materials should also be considered to

determine whether a combination of sensory-stimulating properties could cause sensory overload.

Stress Reduction

As a researcher, I wanted to explore each material's ability to reduce stress between the beginning of use and the end of use. As art therapists, we are aware that stress reduction has a strong connection to mindfulness in that awareness of the present moment facilitates self-regulation and coping (Hinz, 2020; Johnson, 2021). Measuring the level of stress reduction required consideration of mindfulness, awareness of positive and negative feelings, and physical symptoms of stress. Pine needles were found to lack stress-reducing properties and were one-rated as a result. Although they did produce some mindfulness, it was not enough to make a difference in my level of stress and I felt discontentment when working with the materials. Sea sponges, wool, bones, acorns, fake flowers/leaves, and sticks were each two-rated for minimal stress reduction. These materials elicited a feeling of interest and I was able to engage with the materials without hunching over the table, which released some tension in my back. Three-rated materials somewhat reduced stress and included the following: berries, water, sand, tea leaves, stones, seed pods, mud, Spanish moss, rocks, reindeer moss, sheet moss, seeds, insects, and bark. During the use of these materials, I was more conscious of feelings of amusement and enthusiasm related to artmaking, which simultaneously distracted me from physical symptoms of stress. Moderate stress reduction occurred with four-rated materials: feathers, shells, dirt, lichen, earthenware clay, pinecones, grass, fresh leaves, mushrooms, and plant clippings. These materials noticeably promoted mindfulness and relaxed my shoulders, which reduced tension in my neck. In addition to feelings of relaxation, I also experienced self-confidence in my ability to complete the artmaking session and ruminated less on whether the artmaking process would go

according to plan. The strongest stress-reducing abilities were found in five-rated materials: fresh-cut flowers, pressed leaves, pressed flowers, and stoneware clay. These materials promoted a high level of mindfulness and encouraged deep breathing while I handled them. I felt my entire body relax and experienced positive feelings such as serenity, enrichment, and motivation to continue working with the materials. The de-stressed feeling even continued to last after I was finished with the artmaking. Based on the alignment of my clinical experience with research by Chang and Netzer (2019), materials with stress-reducing properties are beneficial in work with any population, but would be especially valuable to use with individuals that are at risk for burnout from factors such as high-stress jobs, caregiver stress, or school. Stress-reducing materials would additionally be helpful for the treatment of anxiety and panic disorders, post-traumatic stress disorder, anger management and frustration tolerance, substance use disorders, and eating disorders (APA, 2013; Hinz, 2020). Working with foraged materials that decrease stress levels assists individuals with mindfulness practice, recognizing and identifying feelings and emotions, and becoming familiar with where and how stress manifests in the body (Johnson, 2021; Sweeney, 2013). In addition, artmaking with materials that reduce stress provides a method for practicing stress tolerance and de-escalation techniques (Hinz, 2020). Notably, stress reduction rankings are subjective and are based on my lived experiences with and personal connection to various foraged materials and their properties.

Versatility

A material's level of versatility describes the ways in which its skills and qualities can be used for a variety of functions in artmaking. Pine needles, pinecones, seeds, shells, bones, and insects were deemed least versatile with a rating of one, indicating one additional possibility for adaptation. Those with two additional possibilities for adaptation were two-rated: pressed leaves,

acorns, seed pods, fresh-cut flowers, reindeer moss, sheet moss, Spanish moss, fake flowers/leaves, grass, and pressed flowers. Medium-versatility materials with three potentially adaptable qualities were three-rated: berries, sticks, bark, sea sponges, stones, rocks, sand, mushrooms, lichen, wool, feathers, tea leaves, dirt, and plant clippings. Water, mud, and fresh leaves were four-rated for having four versatile qualities. Five-rated materials were found to have five or more adaptable qualities: earthenware clay and stoneware clay. The level of versatility in a foraged material can be helpful for determining how widely applicable that material is within a variety of settings and populations. Highly versatile materials are more likely to be easily adapted to the needs of certain populations such as individuals with mental or physical disabilities, the elderly, and young children (Hinz, 2020; Kagin & Lusebrink, 1978; Lusebrink, 1990). Additionally, they may also be better candidates for use with conventional art materials in therapy due to having the ability to provide more numerous options for mixed material combinations and interactions.

Research Findings

My experience with metaphorical meaning in foraged materials reinforced study findings that a client's deeply rooted and meaningful connection to foraged materials and nature often strengthens grounding as well as the ability for expressing oneself and, by proxy, self-esteem and communicating with others (Hewson, 2001; Stamm & Barber, 1999). This is especially prevalent with Sneh and Tristan's (1991) Ikebana metaphor comparing self-growth to plant growth, which is a metaphor that I notably mentioned multiple times in my own study findings when discussing metaphor, relation to life, and self-awareness. My findings also align with results from past studies which stated that working with various foraged materials (such as plant life or sand) provides a beneficial emotional experience through a metaphorical connection to life, the life

cycle, and projective tendencies as the client is able to project personal thoughts and feelings into foraged materials and practice self-expression (Montgomery & Courtney, 2015; Monroe, 2015; Sneh & Tristan, 1991; Stamm & Barber, 1999; Swank et al., 2020; Sweeney, 2013; Tornero & Capella, 2017; Wichrowski, 2006). Additionally, the grounding effects and mindfulness that occurred with sensorily stimulating materials fortify previous findings that sensations of foraged materials (especially visual, auditory, and tactile) ground and regulate clients' feelings, which allows for further progress in treatment (Hewson, 2001; Johnson, 2021; Tornero & Capella, 2017). Mindfulness is noted in the literature as a key component of eco-art therapy due to its promotion of the client-nature connection, emotion regulation skills, and increased self-awareness; this is corroborated by my study results, which report that mindfulness increased my self-awareness, kept me engaged in the artmaking, and elicited feelings of satisfaction and peacefulness (Johnson, 2021; Montgomery & Courtney, 2015). When examining the variety of expressive potential in foraged materials, Montgomery and Courtney (2015) found that client usage of foraged materials led to an enhanced state of affect that simultaneously decreases stress while restoring energy. These results align with my affect reaction findings, which stated that highly rated materials elicited positive feelings such as concentration, calmness, and enthusiasm that stayed with me long after the artmaking process ended. My stress reduction findings that most materials, especially highly rated ones, reduced physical and mental symptoms of stress and increased mindfulness also coordinate well with these results.

Implications for Use in Art Therapy Practice

As art therapists, it is imperative for us to be aware of how the materials we use in practice affect our clients and the therapeutic process. During the research and data collection processes, I became more familiar with myself as an art therapist and as an individual. Through

experimentation with different foraged materials, I was able to get more in touch with my mental, emotional, and physical states and monitor my wellbeing while simultaneously trusting myself to accurately rate material properties. As an individual with an abundance of curiosity, I have always been hands-on with foraged materials and consider them to be a necessary part of my artmaking process. However, until this research study, I never fully entertained the idea that I was barely scraping the surface in terms of working with a mixture of conventional art materials and foraged materials. Now, having completed this study, I find myself looking forward to discovering new perspectives and methods for using foraged materials in my practice. I want my clients and other art therapists' clients to be able to gain everything they can from the use of foraged materials in therapy. The research I have done offers a starting point to address additional ways to approach therapy with individuals of all ages, diagnoses, and backgrounds. While these findings align well with the existing literature on the therapeutic use of foraged materials, the results of this study provide a more in-depth look into the therapeutic benefits of many specific foraged materials and create a foundation for future research to focus on how the properties of each foraged material may uniquely affect the client and therapeutic efficacy.

Limitations and Delimitations

The results of this study were limited to the researcher's past personal experiences with foraged materials, which creates a bias effect on the reported qualities and effects of materials. Moreover, the perceived qualities and effects of materials were determined according to the ways they were used indoors in one or two different groups of materials with specific activities rather than studying foraged material properties and interactions in a wide range of settings, materials, and uses. Although some foraged materials (i.e., berries, nuts, or seeds) are toxic when ingested, safety concerns were not assessed for any of the materials in the present study. Additionally,

some materials were unable to be naturally foraged due to winter climate, general location (Midwestern United States), and local setting (within Indianapolis city limits). While many foraged materials were gathered during preparation for this research, the number of foraged materials utilized in the study had to be limited due to the constraints of the five-week time frame for data collection. Additionally, the eight-month timeline for thesis completion limited the amount of research that was able to be conducted for the literature review.

The most significant delimitation in the study was the ability to acquire some foraged materials by networking. Collaboration for accessibility permitted the researcher to gain additional foraged materials from peers, the art therapy classroom, and the ceramics classroom at IUPUI. Materials were also gathered from multiple locations near the west coast (Oregon) through networking. Other materials that were unable to be naturally foraged were accessed through grocery stores and donations from a flower shop.

Chapter VI

Conclusion and Recommendations

This study aimed to pave the way for future research on the specific application of various foraged materials in an art therapy setting by identifying material properties with therapeutic benefits, establishing scales for property rating, and gathering an abundance of foraged materials to work with in an art therapy setting. With this research I was able to create property rating scales that consider the dimensions of foraged materials and how different individuals may benefit more or less from the use of certain materials. This establishes a concrete way to view how different materials can affect a client's level of personal connection to artmaking materials and to therapeutic treatment. Foraged materials are more approachable materials for artmaking with clients who may be resistant to using traditional art materials and can reduce the stigma that an individual has to be an artist or "good" at art to gain benefits from art therapy. Additionally, foraged materials can elicit a stronger connection between the client and the materials, which promotes a deeper therapeutic relationship and a higher level of engagement with the therapeutic process. Material accessibility is an important factor to consider when planning to use foraged materials in practice; a material inventory screening should be completed before the session to ensure that a well-rounded selection of foraged materials are available to use. The approach taken to acquire these research results can be used with clients and compared to the ETC. Doing so creates an assessment that evaluates what materials a client gravitates toward and indicates which level they are at on the continuum. Further comparison of foraged material research to the ETC can establish a better understanding of the client's clinical state, the client's individual strengths and weaknesses with information processing, how the art therapist can proceed with art therapy, and other approaches to treatment with art and foraged

materials (Hinz, 2020). While this approach to client evaluation provides relatively structured guidelines for use, it still remains largely unstructured to grant clients the freedom of material, subject, and method choice and encourage them to act on their preferred avenue for personal action and expression. As a result, a client's artmaking style and material preferences demonstrate various facets of their inner world such as attitudes, perspectives to new situations, and abilities that can be enlisted to assist change (Hinz, 2020).

An intermediate artistic skill level in ceramics is needed to replicate groups that include stoneware and earthenware clays. Consideration should be given to the length of the ceramics process and the fact that most ceramics sessions will need to occur within two sessions to allow adequate time for glazing and firing. Some experience or knowledge of handling and mounting preserved insects is recommended for replicating groups that utilize insects and insect parts. It is also recommended to have insects prepared for mounting before the artmaking phase of the group; otherwise, the group will need to be split over a two week period to allow adequate time for rewetting, mounting, and drying the insects.

Additionally, the art therapist should take time to become comfortable and familiarized with all foraged materials that will be used in future sessions so they are able to properly introduce the materials to the client and provide quality assistance during the artmaking process if necessary. At times, some foraged materials may not be appropriate or available for use with clients or in a certain environment. In the case that earthenware and stoneware clays are not able to be used, it is recommended that FIMO® soft clay, FIMO® kids clay, Sculpey® oven-bake clay, or Model Magic® clay are used as a replacement to maintain a similar consistency to the original foraged materials.

Furthermore, foraged materials from outdoor environments can bring allergens into the therapy environment. If a client has environmental allergies, fake flowers and leaves can be used in place of foraged flowers and leaves. This study was unable to be conducted in an outdoor environment due to winter weather during the data collection period. Therefore, it is recommended that future studies seek to address this gap by documenting the effects of foraged materials in indoor and outdoor therapy settings to examine and compare the benefits of each setting. Lastly, it is recommended that any researchers who recreate this study use the provided rating scales to begin to establish a foundation for future applicability of results.

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Appendix A

Foraged Material Property Rating Scales

Material: _____ **Group:** _____

Accessibility (ease of access to material)

1 2 3 4 5

Affect Reaction

1 2 3 4 5

Availability of Different Sizes (range of scale)

1 2 3 4 5

Awareness/Experience of Feelings

1 2 3 4 5

Fluidity

1 2 3 4 5

Fragility

1 2 3 4 5

Kinesthetic Value (range of motion)

1 2 3 4 5

Malleability

1 2 3 4 5

Metaphor (relation to life)

1 2 3 4 5

Mindfulness

1 2 3 4 5

Project Manageability (anticipated success of achieving goal)

1 2 3 4 5

Sensory Stimulation (auditory, gustatory, olfactory, tactile, visual)

1 2 3 4 5

Stress Reduction

1 2 3 4 5

Versatility

1 2 3 4 5

Appendix B

List of Foraged Materials

Acorns

Bark

Berries

Bones

Clay (stoneware)

Clay (earthenware)

Dirt

Fake flowers/leaves

Feathers

Flowers (fresh-cut)

Flowers (pressed)

Grass

Insects (bees, butterflies)

Leaves (fresh)

Leaves (pressed)

Lichen

Moss (reindeer)

Moss (sheet)

Moss (Spanish)

Mushrooms

Pinecones

Pine needles

Plant clippings

Rocks

Sand

Sea sponges

Seeds

Seed pods

Shells

Sticks

Stones

Tea leaves

Water

Wool

Appendix C

Study Groups and Foraged Materials

Session 1 (Stick Fairies): Fresh leaves, seeds, sticks

Session 2 (Diorama): Bark, insects, plant clippings, sheet moss, reindeer moss

Session 3 (Nature Mandala): Acorns, fresh-cut flowers, pressed leaves, shells, stones

Session 4 (Watercolor Painting): Berries, pine needles, sea sponges, water

Session 5 (Pressed Scenery Collage): Stoneware clay, pressed flowers, pressed leaves, fresh leaves, sheet moss, mushrooms

Session 6 (Foraged Material Printmaking): Fake flowers/leaves, reindeer moss, pinecones, rocks, grass, Spanish moss

Session 7 (Natural Pot with Mud Painting): Earthenware clay, dirt, lichen, seed pods, water, mud, Spanish moss

Session 8 (Mask): Bones, feathers, sand, tea leaves, wool