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Eliza Bessone

Lesley University, ebessone@lesley.edu

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THESIS APPROVAL FORM

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Student's Name: Eliza Bessone

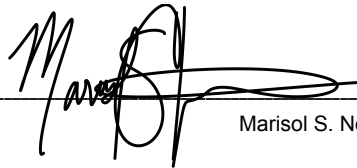
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Thesis Advisor: _____



Marisol S. Norris

Implications and Applications of Eco-Therapy on Art Therapy:

A Literature Review

Capstone Thesis

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Eliza Bessone

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Marisol S. Norris

Abstract

Eco-Psychology and Eco-therapy are emerging theory and approach to mental health counseling which attempt to fill a call within the practice of psychology to consider the relationship of the individual with nature. In the United States this developed through the work of several different professionals and disciplines following the Green Movement in the 1980's, newfound attention was focused on the relationship between humans, the earth, and the effects of global climate change on both parties. Meanwhile in Europe, the development of the Care Farm Model and multifunctional agriculture emerged as a response to unhealthy farming practices as well as an increasing need to support vulnerable populations such as people with severe mental illness, developmental disabilities etc. Despite the success of Care Farming there remains a lack of literature available to support the potential of eco-therapy due to the relative youth of the field. In the following literature review, several academically reviewed articles were surveyed and organized by populations and/or diagnoses served to discover the practical applications of eco-therapy as they exist currently. Most importantly however, this literature review intends to investigate how Eco-therapy and Art Therapy might be complementary and how the fields might be integrated to inform one another. Following the review, it was concluded that, while eco-therapy is quite promising in regard to the physiological benefits and stress relieving effects, there was an overall lack of information and access, especially in the United States. Plus, there was little research to support the integration of the two modalities. While both fields have potential for treating areas of the human psyche like the mind-body connection that are often neglected by the mainstream mental health system, more information is needed to fully understand the possibilities for modern mental health treatment if art and eco-therapies were to be combined.

Implications and Applications of Eco-Therapy on Art Therapy:

A Literature Review

Introduction

Eco-therapy, otherwise known as Nature-Based Therapy (NBT), is the use of the natural outdoors within a therapeutic process to promote mental health and well-being (Corazon, Nyed, Sidenius, Poulsen & Sigdotter, 2018). The use of the natural outdoors includes but is not limited to the use of natural materials within a therapeutic context or utilizing a natural outdoor space with therapeutic goals in mind. ‘Ecotherapy’ is an umbrella term for a gathering of nature-based techniques and practices that aim to establish this human-nature relationship, from which psychological healing may be derived (Kamitsis & Simmonds, 2017). Both eco-therapy and art therapy are commonly considered to be “alternative” holistic therapies which are gaining traction in the field of mental health counseling but by no means have they become viewed by agencies and insurance providers as mainstream forms of mental health treatment. While eco-therapy is the use of the natural environment within the context of a therapeutic relationship, Art therapy is similarly defined. It is the use of the art making process within the context of a therapeutic relationship in order to develop personal growth, insight and to promote mental health and well-being. According to the literature existing in the public realm today both art therapy and ecotherapy can have significant benefits for a variety of different populations in a variety of different settings. Some benefits of both art and eco therapy include: 1) decreasing feelings of isolation, depression and anxiety, 2) alleviating symptoms of stress related illnesses 3) assisting in increased self-efficacy and social connectedness to name but a few of the potential benefits.

My personal standpoint has largely been in alignment with the belief that relating to nature is inherently healing and thus have a personal investment in the development of NBT as a

prospective treatment approach within the therapeutic realm. In reflecting on my own personal relationship with nature, I have seen the importance of remaining connected to animals, plants, trees, bodies of water and so on. Through these relationships I have gained a sense of connectedness, purpose and belonging, crucial aspects for my personal mental health. Not only have I witnessed the benefits of mindful engagement with my natural surroundings for myself, but also for others. Additionally, I have noticed in my own artmaking process that I frequently draw from my natural environment for inspiration for artmaking, or my artmaking is used as a way of imitating/exalting and processing my natural surroundings. As a result, I have felt strongly that regardless of ability, physical or intellectual, interaction with nature can bring incredible physical and psychological benefits for people of all demographics. Art therapy is similarly accessible in that it can be beneficial to anyone, regardless of ability. While eco-therapy taps into hypothesis that humans are inherently relational with their natural environment, a concept called biophilia, art therapy draws from concept that humans are inherently creative (Grinde & Patil, 2009). Considering the importance of both these basic aspects of the human experience on mental health, it could have incredible clinical impact if these two elements were considered together as the mental health field continues to develop new and innovative ways to address suffering that befalls the human experience.

Eco-therapy has been identified by the International Journal of Environmental Research and Public Health as a flourishing field which may be an effective treatment for a wide variety of common human conditions ranging from Post-Traumatic Stress Disorder (PTSD) to Chronic Widespread Pain (CWP). Similarly to art therapy, there is a dearth of research available on NBT but significant bodies of literature have begun to emerge as the discipline NBT develops. By surveying and understanding the literature that exists in the field of eco-therapy, I hope to

perpetuate an attitude of curiosity and interest for ecotherapy- a burgeoning field that holds incredible potential.

Considering the relatively unestablished status of ecotherapy, any and all writings and research in support of the topic have the potential to advance this up-and-coming area of interest into more main-stream practice. The purpose for this current text was to explore the ways in which eco therapy and art therapy have been practiced in the field, how they are shown beneficial when working with people of all ages and abilities, and how the benefits might be enhanced with more research and if the two disciplines were to be combined. This was done by reviewing eco-therapy literature from an assortment of different researchers from several international entities to examine the implications and applications of therapeutic approaches which include but were not limited to: nature-based therapies, wilderness therapy, play therapy, animal assisted therapy, Green Care, and Care Farming. Plus, research articles which covered the use of natural materials as art materials, as well as the use of artmaking as a way of exploring one's relationship with nature were also included. These subcategories were either closely related to NBT through shared theory, technique, and the mechanisms through which they work, or they were directly related as being sub-categories under eco-therapy, green therapy, or nature-based therapies¹.

A number of articles were assembled for this literature review that described studies ranging from qualitative, quantitative and arts-based research methods. Articles that were included discussed variations on Eco-therapy such as green-care, care-farms, animal assisted therapy, horticulture therapy, and floratherapy. Such categories fell under the broad term of eco-

¹ Throughout this literature review the terms eco-therapy and nature-based therapy were used interchangeably.

therapy as they engage the client using materials sourced from natural surroundings or the therapy occurs within natural or naturalistic setting such as institution grounds, parks, nature conservation land, and gardens. Animals were included as they are considered non-human beings which reside in nature. The findings of the research assessed were supportive of the hypothesis that NBT is an effective approach to treating not just psychological symptoms but can also alleviate certain physiological symptoms as well. NBT has been alleged to decrease certain psychological and physiological symptoms as well as lead to increased feelings of self-efficacy, stress relief, positive relationships and connectedness (Poulsen, Stigsdotter, Davidson, 2018, Corazon et. al., 2018). NBT has also been combined with the concepts of play therapy while working with children displaying problematic behaviors in elementary and pre-school again, for measurable positive results (Swank et. al., 2017).

Although there is a growing amalgamation of research in existence, most studies were qualitative, relatively small scale and lack important validity and reliability elements that commonly accompany larger quantitative research studies. Plus, the research largely measured physiological responses rather than measures to indicate psychological change. It would be beneficial to the growth of NBT for there to be bodies of research that provided larger sample sizes and more exhaustive quantitative experimental designs to appeal to the medical model employed by the U.S. mental health system. Overall the studies described in this literature review add to the expanding knowledge surrounding the benefits of Nature-Based Therapy interventions and help to bolster the credibility and validity of the field as a whole but additional research is always encouraged. The aim was to analyze the research available on NBT in order to thoroughly examine the clinical implications and applications of NBT as potential mental health treatment for a diverse range of symptoms amongst a diverse range of individuals. As

such, the articles were organized by the type of population and/or each population's respective challenges or diagnoses. Each article were discussed individually, and then considered in the context of the subject as a whole, the implication it may hold for the use eco-therapies within mainstream mental health practice, as well as the potential it has for the integration of eco and art therapies.

Literature Review

Art Therapy as well as eco-therapy have attempted to fill a call for more experiential therapeutic approaches to meet more diverse needs in clients and ever-increasing mental health needs in the population as a whole. In general, expressive arts therapies such as music, dance, drama and art therapy, although still up-and-coming fields in their practical application and widespread use, have been well researched. Not only is research done to investigate the uses of art therapy on different populations but specifically how art therapy changes the process of therapy and the effects it can have on the brain. One might argue that both art and eco-therapies are successful because the theoretical underpinnings of both approaches incorporate the sensorial and physical experiences of an individual to deepen or repair the mind body connection, an aspect of mental health that many practitioners agree to be essential. Through the present literature review, it was the intention to draw attention to how NBT might provide similar results to diverse populations as well as how those benefits might be compounded should ecotherapy and art therapy be combined.

Historically, the concept of ecopsychology, and the consequent Eco-therapy emerged in the united states following the "green movement" in the 1980's which raised awareness around the rise of global climate change and sought to spread "eco-friendly" practices to help preserve global ecosystems. This school of thought contributed to a new wave of psychology that took

into consideration the sociological and psychological effects of global climate change on human beings. Prior to the coining of the term “Eco-psychology” variances of horticulture therapy have existed for hundreds of years. Specifically in the United States, Benjamin rush was credited with providing gardening activities for psychiatric patients and horticulture therapy was utilized post World War I and II to treat veterans with physical and psychiatric disabilities (Perryman & Keller, 2009). Meanwhile in Europe, Care Farming, a prominent form of eco-therapy, emerged in the Netherlands as there was a societal response to mono-cultural practices in farming having a damaging effect on local ecosystems as well as the increasing need for more supported employment opportunities for vulnerable populations(Hassink, Hulsink, & Grin, 2012).

Dutch Care Farms have a deep and rich history, beginning in the 1940’s when Dutch families took in people with significant “needs” to teach vocational skills, provide care, and receive labor in return (Ainay-Le-Chateau,1905). This was in keeping with the tradition of the 12th century Patron Saint Dymphna whom originated in the Belgian town of Geel and advocated for the protection and support of the frail, and mentally ill (Ainay-Le-Chateau,1905), People flocked to this small town and local families would take in the migrant populations, providing housing and support as well as gainful employment (Ainay-Le-Chateau,1905) Since then, Care Farms have become part of the fabric of modern Dutch Culture. Care Farms exist both in large and small communities all over the country and people with developmental or cognitive differences, mental illness or physical disability are able to receive services, learn vocational skills or a trade, and participate in meaningful interaction with a larger community. Dutch Care Farms have seen such high rates of success that their presence in the Netherlands is a fixture in the civil support system for individuals with special needs. The success of such systems is multifaceted, but one of the most key aspects is the significant relationship that individuals

receiving services at care farms have with the land and the natural world. Individuals are encouraged to learn how to farm vegetables or raise livestock, requiring them to experience the outdoors and the greater natural community in a far different way than individuals that have little to no access to natural resources or animals (Hassink, Hulsink, & Grin, 2012).

The following section present, analyze and critically consider several research studies which provide meaningful contributions to the body of knowledge surrounding NBT and Art Therapy. While there is significant research which emerged from sources internationally, there is relatively little peer-reviewed research available which described the current practice of NBT in the United States. The purpose for this present writing was to explore the literature that exists currently to better understand how NBT is currently practiced, what theory it is rooted within and how it might become a more mainstream therapeutic treatment available in the U.S. This is done by reviewing literature from a variety of different researchers from several international entities which examine the implications and applications of therapeutic approaches which included but were not limited to: the expressive arts therapies, nature-based therapies such as garden therapy, forest therapy, wilderness therapy, and play therapy.

A number of articles have been assembled, describing studies that range from qualitative, quantitative and arts-based research methods. The articles have been organized in distinct categories which describe the setting and operating elements of each study (i.e. NBT at Care Farms, NBT in Gardens, Animal Assisted NBT). Articles were gathered by performing internet searches for scholarly articles through Lesley University's online databases of academic literature. Search keywords such as "nature-based therapy" "eco-therapy" "Farm-based Therapy" "animal assisted therapy" "green therapy", environmental therapy, art-therapy, and nature therapy were used to find articles in a general search and then the results were further refined

through identifying if the publication was peer reviewed. From there articles with relevant titles were collected and analyzed and then critiqued through written literature review. Databases accessed were : PsychINFO, Academic Search Premier, Academic Search Index, MEDLINE, JTOR, FLO Lesley Library Internet Catalog, ERIC, SocINDEX, amongst others which are available through the Lesley University Library Online Database.

The articles were organized in the literature review for the purpose of thoroughly understanding the benefits of eco-therapy treatments on a wide variety of populations as well as a wide variety of diagnoses. As such, the articles examined were categorized either by the type of population that was being served or the primary clinical “problem” that was being treated in any given population. Thus, all articles that described research treating individuals struggling with Post Traumatic Stress Disorder were grouped together, all articles regarding the treatment of children was grouped together and so on. The research that was examined described significant findings which supported the physiological benefits of NBT while leaving a relative lack of findings which described the psychological benefits of NBT.

Stress-related illnesses. The first article presented a long-term follow-up research study examining the efficacy of NBT for adults suffering from stress related illness by measuring levels of healthcare consumption and sick-leave absence. The study was conducted in Denmark with a sample of 84 adult participants selected for their history of long-term sick-leave absence within 3 months prior to the study (Corazon et al., 2018). Participants were allocated into two randomized groups and the experimental group underwent an NBT treatment developed by the Nacadia Garden Therapy program in Denmark, while the control group participated in a Cognitive Behavioral Therapy (CBT) treatment program (Corazon et al., 2018). The NBT treatment administered to the experimental group lasted 10 weeks and was comprised of 3-hour

sessions which took place 3 times a week (Corazon et al., 2018). Treatment consisted of 5 major components: 1) individual therapeutic conversations based on cognitive behavioral therapy 2) individual/group mindfulness exercises in the garden, 3) individual and social gardening activities, 4) individual relaxation/reflection time in the garden and 5) homework to practice techniques introduced (Corazon et al., 2018).

The control group underwent a CBT treatment program of 10-week duration which took place inside and was comprised of 20 individual sessions which lasted 1 hour (Corazon et al., 2018). Sick leave absence and health-care consumption in participants from both groups were monitored for one month prior to treatment and then 12 months after treatment ceased (Corazon et al., 2018). Results showed that both the NBT and the CBT treatment showed similarly significant long-term improvements in participants perceived psychological well-being as well as a decrease in health-care consumption and sick leave. This was evidenced by decreased contact with general practitioners and positive feedback from self-report scales (Corazon et al., 2018). The impact of this research study was tremendous, especially when considering the sociological effects of eco-therapy long term. The reduction of symptoms as well as the reduction over time in the participants' healthcare consumption is demonstrative of the effectiveness of the treatment, but also demonstrates the potential for eco-therapy to change the shape of the mental health and public health realms as a whole. Integrating eco-therapies into mainstream therapeutic approaches may contribute to a reduction in overall health costs for patient's long term.

The second article describes an experiment which explores the effects of forest therapy on CWP by measuring physiological and psychological differences between an experimental and a control group before and after treatment (Han, Choi, Jeon, Yoon, Woo & Kim, 2016). CWP is defined as a condition in which pain is present for 3 months or more in at least 5 parts of the

body (Han et. al. 2016). This condition is often associated with both physical and psychological symptoms including depression, fatigue, sleep disturbance and lower quality of life (Han et. al. 2016). The study was conducted in three separate trials of 2 groups which consisted of roughly 12 individuals. The experimental group participated in a two-day forest therapy treatment at the Saneum Natural Recreation Forest in South Korea (Han et. al. 2016). The treatment included indoor and outdoor activities aimed at providing relaxation, refreshment and attention restoration. Physiological measures such as heart rate variability (HRV) and Natural Killer Cell (NK) activity were used to determine changes in parasympathetic and sympathetic nervous system function (Han et. al. 2016). Self-report measures were used to collect data regarding changes in participants' perceived pain. Results showed that the Forest Therapy group experienced greater physiological improvements as compared to the control group as indicated by increase in HRV as well as increase in NK cell activity (Han et. al. 2016). Additionally, the forest therapy group reported a greater decrease in in pain, depression and significant improvement in health-related quality of life. While the immediate study did not follow up with the participants long term, the short-term effects of the treatment were notable. Addressing physiological as psychological ailments with one treatment is incredibly useful, and should this line of research be followed, it may deepen our understanding of psychosomatic symptoms and the possibility for approaching mental health treatment in a much more holistic way.

This next article sought to examine the stress-relieving qualities of gardening amongst adults when exposed to stressful events (Berg & Custers, 2010). The authors hypothesized that gardening, due to the combination of physical exercise as well as the contact with nature would be more effective at relieving stress than indoor reading activities (Berg & Custers, 2010). The research study took place in the Netherlands and consisted of 30 adult allotment gardeners who

were randomly assigned to either 30 minutes of gardening activity or indoor reading activity following the completion of stressful task (Berg & Custers, 2010). Salivary cortisol levels and self-reported mood were repeatedly measured. Additionally, the present research expanded on prior examination of stress levels and gardening by studying gardeners that had access to their own garden plots in a community garden (Berg & Custers, 2010). This provided somewhat of a standardization in that each of the gardening plots were of similar size and shape, and the researchers observed participants as they gardened. This created a relatively accurate representation of how participants might garden in their own residential garden, providing the most naturalistic depiction of each gardeners typical habits. From the data collected, gardening and reading each led to decreases in cortisol during the recovery period, but decreases were significantly stronger in the gardening group(Berg & Custers, 2010). Positive mood was fully restored after gardening, but further deteriorated during reading. Additional data was collected on affective regulation and whether the presence of gardening following a stressful event was able mitigate the affect regulation or salivary cortisol levels of the individual gardeners(Berg & Custers, 2010). The findings of this article provide an incredibly useful picture of just how effective horticulture therapy can be in treating acute stress. Not only can this help develop an understanding of the physiological benefits of stress, but also provide insight on the correlation, if any, of cortisol levels and affect: i.e. the mind body connection.

NBT and Post Traumatic Stress Disorder. The next section of this literature review offers descriptions of several qualitative research studies, and discusses the relevance and usefulness of the findings in furthering the global understanding of NBT. The first of the studies with a qualitative research design presented here described the current understanding of post-traumatic stress disorder (PTSD) and covered common treatment options for sufferers of PTSD

such as cognitive/behavioral approaches and pharmacological treatments (Poulsen, Stigsdotter, Davidson, 2018). PTSD is identified as being a significant mental health need due to the detrimental effect it has on general health, the high risk of suicide, and overall cost of treatment associated with PTSD (Poulsen, Stigsdotter, Davidson, 2018). The NBT treatment developed by the researchers incorporated Attentional Restoration Theory (ART), which postulates that “soft attention” is an effortless type of brain function easily engaged via NBT and is reported to reduce the adverse reactions to stressors commonly experienced by sufferers of PTSD (Poulsen, Stigsdotter, Davidson, 2018). The study was comprised of 14 male veterans aged 26-47 who were recruited via advertisements directed at veterans (Poulsen, Stigsdotter, Davidson, 2018). The intervention contained horticultural activities, body awareness, and individual therapy sessions intended to create recognizable structure and to reduce nervous system arousal (Poulsen, Stigsdotter, Davidson, 2018). Data was collected through semi-structured individual interviews conducted at the University of Copenhagen’s therapy forest garden pre, during and post treatment, which all occurred at the same site (Poulsen, Stigsdotter, Davidson, 2018). Data was analyzed using interpretive phenomenological analysis (Poulsen, Stigsdotter, Davidson, 2018). Following the 10-wk NBT program the veterans reported that their bodily symptoms were decreased and that spending time with like individuals was beneficial (Poulsen, Stigsdotter, Davidson, 2018). Additionally, participants reported an improved ability to partake in social activities. Finally, a last interview was conducted 1 year following treatment and participants overwhelmingly reported an increased sense of control and ability to manage their symptoms (Poulsen, Stigsdotter, Davidson, 2018).

The findings of this study can be useful when considering the treatment implications that NBT can have for a specific diagnosis, but, it would be even more helpful for the growing field

to have studies which examine the same concepts, but occur on a larger scale. Larger sample sizes and more quantifiable data points would be useful for determining the operating element which lead to such profound benefits. Due to the qualitative nature of the research method it is unclear whether the NBT was truly the operative element or the sense of solidarity that the veterans gained by going through treatment with similar individuals to themselves was the more beneficial factor. Further research with more clearly quantified variables would be extremely helpful as it would solidify more the cause and effect of NBT as contributing to a reduction in symptoms for individuals.

The following research study stemmed from Occupational Therapy, rather than strictly psychological therapy, yet the symptoms being examined were often treated with other forms of psychotherapy. Veterans suffering from PTSD and/or substance abuse disorder participated in a 28-day substance-abuse residential rehabilitation and treatment program (SARRTP) and then self-selected to in a research study which sought to examine the effects of Horticultural therapy (HT) on cortisol levels, symptoms of depression, symptoms of PTSD, Alcohol cravings and quality of life (Detweiler, et al., 2015). Initially the participating veterans took several self-administered rating scale assessments to determine baseline requirements (Detweiler, et al., 2015). Data was collected on a quality of life and satisfaction survey, an alcohol craving questionnaire, a PTSD checklist and a depression scale. The veterans were then randomly assigned into an experimental and control group. The experimental group participated in a horticultural therapy program while the control group participated in an occupational therapy regiment. The data that was collected was contingent on the veteran's adherence to alcohol abstinence requirements and the salivary cortisol samples collection regiment which occurred every 7 days. The data gathered from participating veterans who dropped from the study or were

unable to maintain the base requirements of regular salivary cortisol tests or alcohol abstinence was not included in the final results life (Detweiler, et al., 2015). Trends suggest that HT may modulate stress in veterans, as evidenced by decreased cortisol levels and depressive symptoms, and may improve quality of life more than the programs in which the OT group participated. (Detweiler, et al., 2015) However, the authors stated that “further investigation with larger samples, including a nontreatment control group, is needed to determine whether the observed trends are treatment effects or due to abstinence”. As such, while interesting to observe the use of horticultural therapy as a broadly reaching treatment for multiple diagnoses, it appeared that the study at hand required a more streamlined research design such that significant causality could be determined between the reduction of depressive symptoms, the decrease in cortisol levels etc. and the introduction of the horticultural therapy program.

Children and NBT. The next research study was conducted in Florida and sought to examine the usefulness of nature-based child centered group play therapy (NBCCGPT) for early elementary aged children exhibiting behavior difficulties (Swank et. al., 2017). The authors review the concepts and benefits and of play therapy, the child centered approach as well as nature-based therapy (Swank et. al., 2017). Additionally, the researchers examined the essential skills that children typically develop in early elementary school that can impact the trajectory of the child’s success and mental health later on (Swank et. al., 2017). Participants in the study were referred to the study by the therapeutic school at which they were all students (Swank et. al., 2017). Participants were 5 African American children, aged 5-7 that came from low-income families (Swank et. al., 2017). Three of the participants were placed in the NBCCGPT group, while the remaining two were placed on a wait list (Swank et. al., 2017). The researchers used an

A-B-A single case research design and collected data using the Direct Observation Form (Swank et. al., 2017).

The program took place over the course of 6 weeks with two 30-minute sessions per week. Analysis of the data suggested that the three treatment group participants demonstrated an increase in on-task behavior and decreasing in total problems as compared to the waitlist participants (Swank et. al., 2017). Thus, the researchers concluded that the study provided initial support for using NBCCGPT to address behavioral concerns in children that may impede learning. In reflection on the research study examined here it is crucial to consider the sample size and the lack of diversity in the sample as areas of weakness in this study. Although the study took an important step in initiating research regarding NBCCGPT, it was done on such a small scale that it is difficult to extrapolate any significant conclusions about the meaning of the researcher's findings. Not only was the sample size far too small to determine any statistical significance of the findings, but the sample itself was quite homogeneous. But, regardless of the generalizability of the findings, the individuals who participated experienced positive results, which cannot be written off. The strengths of this research design is in the highly detailed vignettes which richly describes the experiences of the participants. This presents a potential format as well as case study style description of how an individual might respond to such a program.

While qualitative and quantitative research studies offered thorough representation of the data collected by the researchers, Arts Based Research added another contextual layer that can add invaluable nuance to a research experience. The following was arts-based research that not only examined arts-based exploration of the natural world but additional exploration of the individual relationship between client and nature or natural phenomenon. This article provided a

representation of how one might integrate Expressive Arts Therapies and eco-therapy. While this was an extremely promising development, literature which described this integration was extremely rare. The next study examined was an arts-based research study that followed the post-traumatic growth of a group of eleven children from Peru who survived a devastating earthquake in 2007. Immediately following the earthquake, the children participated in a nine-month art therapy program intended to provide emotional support while the community recovered from the disaster. This article followed up with that same group of youth survivors three years later and observed whether the positive effects of the Art Therapy intervention directly following the traumatic event were long lasting (Mohr, 2014).

The researchers described the nature of the original event and studied the participants' perceptions of their post-traumatic growth as well as how they used art making as a way of understanding their experience. The authors noted the crucial importance of sensory, physical, somatic and body-oriented treatment for trauma and asserted that art therapy interventions can provide those aspects of treatment with ease (Mohr, 2014). Participants were asked to take photos of themselves and/or their surroundings pertaining to the themes of: personal strengths, what had helped them since the earthquake, and how they thought they'd changed since the earthquake (Mohr, 2014). The photos were then used in a semi-structured interview to elicit a more nuanced conversation about the experience. Next, participants were invited to engage in a dialogue surrounding the theme and create a mixed media collage using the photos they took. The artwork was prepared by the participants, to be displayed in a community art exhibit. Some common themes that emerged were: connectedness, increased empathy, honoring remembrance, a stronger sense of life purpose through empathy and helping others, refining personal balance through art, new growth and renewal (Mohr, 2014). Overall, this research provides a rich and

nuanced insight into the experience of the youth survivors of natural disaster and clearly articulates the benefits of art therapy for individuals and communities that have experienced traumatic events. Additionally, it lent special attention to the relationship that the participants had with their natural environments, giving space to the possibility that while the trauma of the earthquake effected their personal relationships, it also may have affected the participants relationships with themselves within a greater natural ecosystem.

The subsequent article delineated an arts-based research study on the concept of Compositionism, or, the idea that humans are interconnected with their immediate bio-social environments (Trafi-Prats, 2017). This provided yet another viewpoint adding dialogue to the combination of eco and art therapies. The author proposed that Compositionist theory should be used to inform art education and explored this hypothesis through an arts-based research study where 5th graders engaged in arts-based activities intended to foster attentiveness and intimacy with the natural surroundings of their school environment (Trafi-Prats, 2017). The researcher delved deeper into the concept of compositionist theory and how it challenges the idea that humans are the “exception” from the biological communities within which we reside. (Trafi-Prats, 2017).

The author linked exceptionalism to the danger of global climate change and how collective adherence to human exceptionalism has led to the damaging of our global ecosystem (Trafi-Prats, 2017). The method utilized to gather arts-based data was to invite a group of 5th graders from the American Midwest on a series of 6 outings where they engaged in multisensory, cross-disciplinary exploration of their local ecological community (Trafi-Prats, 2017). The exploration focused on natural relationships and guided the students in a series of multi-modal shifts to understand, explore and engage with non-human beings in a richer way. Overall, this

article presented a dynamic and complex way of understanding and knowing humans within their larger bio-social communities. Plus, it demonstrated how artmaking can be used as a way of exploring and understanding one's natural surroundings, such that the relationship between self and environment can be strengthened. This was a valuable contribution to the greater understanding of how art therapy and ecotherapy might be melded together in that the root concepts of each field were present during this research study, as was the examination of the connection between mind and body. While not explicitly art therapy or eco-therapy the concepts explored were rooted in eco-psychological theory while the tools used to explore this concept were visual art, creativity. However, the article itself was esoteric and theoretical to the point of having difficulty understanding the method, the results and the actual concepts being discussed. While interesting and valuable in providing a shift in perspective surrounding a critical global issue that humans have contributed to, this article could benefit from simplicity, clarity and organization in order to convey its meaning in a more accessible way.

Care farms. The following article emerges from a sociological perspective on eco-therapy and explores the typology of diverse care farms. The authors identified a need for more information to describe care-farms and the mechanisms by which they are created, operated and sustained (Hassink, Hulsink, & Grin, 2012). Care farms from across the Netherlands were surveyed to identify key dimensions such as ratio between agriculture and care, the background of the initiators and the degree of collaboration with formal care institutions(Hassink, Hulsink, & Grin, 2012). The authors identified six main types of care farms: four were initiated by farmers' families and the other two types were initiated by individuals or entities new to agriculture (Hassink, Hulsink, & Grin, 2012). Additional discussion was presented around the role that agriculture plays in rural society and the shift away from "production" and an increased

emphasis on local consumption and sustainability. The authors also presented potential theoretical ways of approaching care farming from an organizational perspective (Hassink, Hulsink, & Grin, 2012). In essence, this article provided a sociological analysis of the structures and systems that make care farming successful, specifically in the Netherlands. Altogether this information was useful in understanding how care farms are organized in such a way that they can be examined as an example of public health inform other mental health systems that may be considering an eco-psychological approach to treatment. While this article mentioned little about the mind-body connection, or the integration of the eco and art therapies, it provided an example of what a system might look like to provide more accessible eco-therapy to a variety of different populations.

Next, Hassink, De Bruin, Berget and Elings discussed the role of farm animals in the treatment of populations such as people who struggle with severe mental health issues or children with behavioral difficulties. Care farms were described as a positive potential alternative to a more traditional therapeutic setting. Animals at the Care farms were identified by the authors as being an important aspect of the Care farm experience with multiple benefits (Hassink, Bruin, Berget & Elings, 2017). Animals at care farms were noted to possibly: (a) provide meaningful day occupation, (b) generate valued relationships, (c) help people master tasks, (d) provide opportunities for reciprocity, (e) provide welcome distraction from personal issues, (f) promote relaxation, (g) facilitate customized care, (h) facilitate relationships with other people, (i) stimulate healthy behavior, (j) contribute to a welcoming environment, (k) make it possible to experience basic elements of life, and (l) provide opportunities for reflection and feedback (Hassink et. al, 2017). The authors proposed that the benefits of working with animals could have varied benefits for different populations and that the activities could be tailored to meet the

needs of diverse types of people. When these concepts were considered within the context of mental health as a whole, this appeared to be incredibly helpful and the results.

Green Care in rural America. Although all of the information from the aforementioned articles emerging from the Netherlands was helpful in that it informed the possibilities for the field, there were few equivalents found anywhere in the United states. In this next article, Artz and Davis explored the possibilities for green-care, as it was described in this article, in rural areas of America. This is the closest example of care farm style therapeutic treatment that has been researched in the U.S. According to the authors of the present study “green care” was a term that included therapeutic social or educational interventions involving farming; farm animals; gardening or general contact with nature(Artz & Davis, 2017). This article specifically focused on therapy practices occurring on a farm. The authors noted that there was little empirical evidence to either support to refute the effectiveness of therapeutic farming and additionally acknowledge the lack of access due to the nature of the US. Mental health system(Artz & Davis, 2017). The researchers presented possible avenues for rural care farming which would be community based, eliminating the need for insurance. (Artz & Davis, 2017) Green-care was described in this article in the broadest sense as psychological, educational, social or physical interventions that involved plants and/or animals(Artz & Davis, 2017). The authors then described an overview of potential types of interventions which could be included in green care(Artz & Davis, 2017). Possible Interventions could be passive (sitting in a natural setting) or active (caring for animals, sowing seeds harvesting plants etc. Practices can take place in many different natural or naturalistic places including forests farms, the grounds around an institution, gardens, parks(Artz & Davis, 2017). But in essence, the emphasis was the disbursement of services within a natural setting, reason being that people value a connection

with nature but it was increasingly lack in U.S urbanized culture. With their research, Artz & Davis (2017) began to fill a significant gap, not only in the literature surrounding eco-therapy in the United States, but in a largely unexplored treatment model which could hugely benefit underserved populations in the United States if it were to be widely adopted and implemented. Not only could rural community based green care fill a need for more mental health treatment for sparsely populated areas, but it could fill a similar purpose to Care farms in that it could fill a need for agricultural reform. Plus, participants could have the opportunity to yield the aforementioned psychological benefits of nurturing a relationship with nature, animals, other community members, and an increased sense of self-efficacy and self-esteem. It would be a great disservice to many underserved populations should the potential of rural green care in the united states go unexamined.

The use of natural materials in the counseling room. This qualitative research article explored the practices of counsellors who implement ecotherapy as a treatment modality in their consulting rooms. Thirty participants (twenty-two females and eight males) from six countries completed an open-ended questionnaire (Kamitsis & Simmonds, 2017). Of those thirty participants eleven (eight females and three males) were also interviewed. Data were analysed using Interpretive Phenomenological Analysis. Common practices reported by participants included: assigning nature-based homework exercises, facilitating an experiential connection to nature, nature guided mindfulness/ meditation, and the sophisticated use of nature metaphors (Kamitsis & Simmonds, 2017). This research provided insight into how nature-based techniques can be incorporated into conventional indoor counselling settings (Kamitsis & Simmonds, 2017). This article contributed to the discussion of how art therapy and eco-therapy could possibly be combined in that it could be easily extrapolated that the techniques used to bring the natural

materials into the “conventional” counseling room, could also be brought into a counseling session that utilizes art therapy as well. One technique described was an intervention where the client was asked to view images of natural settings and creating a story about them, or create an image in response to the original image (Kamitsis & Simmonds, 2017). While no mention of art therapy was described in the article itself, the natural next step was to think critically and creatively about how stimulating artistic responses to the natural world would be a relatively easy way of engaging a client during an art therapy session, especially with someone who’s relationship to nature is already a part of their personal values.

Next, the concept of floratherapy was introduced as a nature-based and expressive arts therapeutic intervention which builds upon the idea introduced earlier about the use of natural materials within a more traditional counseling setting. According to the authors “floratherapy is the use of floral design activities incorporating fresh flowers and plants as a medium to promote the therapeutic process by enhancing self-disclosure and expression” (Perryman & Keller, 2009, p. #). In addition, floratherapy promoted relational concepts of nurturance, growth and development as clients interact with living plants and flowers (Perryman & Keller, 2009).”In this article the authors described a group floratherapy program which operated for a total of five weeks. The participants were 6 women whom all lived in the same retirement home in the American Midwest. The research was designed as a case study in that it described the experience of one woman as she participated in the five-week program. The study described in detail the experience of this individual as she processed certain common themes with group members and was able to utilize the medium of floral arrangement as a way of reflecting on life changes, reminisce on the past, cope with grief and loss and process typical stage of life issues (Perryman & Keller, 2009).”. Additionally, the group members reported increased feelings of purpose and

social connection. Plus, there was an increase in multisensory engagement with the flowers, making meaning from life events, and they discussed goals for the future (Perryman & Keller, 2009). The article also provided a brief history of flora therapy/horticulture therapy and details additional research about the positive effects of floratherapy programs with varying populations. According to the authors this therapeutic approach is especially beneficial at fostering the connection between the individual and nature/natural materials and engaged the individuals to create within the bounds of the therapeutic relationship. Overall, the findings in this single case research study were extremely helpful in understanding how Art Therapy and Nature-based therapies have incredible potential when used in conjunction. The use of flowers as an art medium was an effective way of bringing natural materials into a treatment setting where accessibility due to geography or due to low client mobility may be a limiting factor on eco-therapy interventions that occurred in the naturally occurring outdoors. Flowers were relatively easily obtained, transported and the manipulation of flowers into arrangements was simple and required little expertise such that individuals with little experience could still feel successful and yield the benefits. Considering all these factors together, floratherapy showed itself to be a positive and effective way of including natural materials into a setting where access may be limited.

Discussion

After reviewing a plethora of research articles, it was revealed that although there is substantial research discussing the benefits of ecotherapy and art therapy respectively, there is comparatively little research which explicitly examines the benefits of ecotherapy and art therapy combined. Regardless of the lack of research on eco/art therapy crossover interventions, through analyzing the research above a variety of benefits and common themes emerged which make it

even more clear that the potential for the two approaches to be used in conjunction is proverbially fertile ground. Both approaches have research supporting their success in the reduction of physiological and psychological symptoms associated with a variety of diagnoses, but also throughout a wide variety of settings. Eco therapy saw a reduction in: (a) stress related symptoms and illnesses, (b) symptomology associated with PTSD, (c) depression and anxiety, and (d) social isolation as well as increased feelings of self-efficacy, connectedness with self, environment and others, self-esteem, personal insight, and general well-being. While study researchers could not determine statistically significant correlation between the ecotherapy and/or art therapy treatment and the positive benefits yielded by participants (Detweiler, et al., 2015), there were still an overflow of research which used arts-based, qualitative and case-study research designs to demonstrate the effectiveness of their art or eco-therapy interventions (Perryman & Keller, 2009). Plus, several research articles provided quantifiable measures of physiological markers to deepen the understanding of the connection between the human mind, body and the collective responses to stress. Furthermore, but much of the research surveyed here was substantiated by studies emerging from sociological and public health disciplines, further verifying the effectiveness of eco and/or art therapy treatments on a variety of populations and diagnoses.

In spite of the apparent success of these two developing alternative therapies there were several elements which researchers acknowledge as barriers to the practicality of integrating Art therapy and eco-therapy. Firstly, access to the natural outdoors was considered limited primarily due to the geographic placement of the natural outdoors as relative to many urban settings and secondly, due to client mobility potentially limiting physical access to the natural outdoors. Another crucial limiting factor was that insurance companies may not reimburse for such

“alternative” therapies such as eco and art therapy, further limiting client access. It was revealed through this literature review that although similar needs are present in the U.S. for increased access to mental health care and multifunctional agriculture as there are in the Netherlands, the culture surrounding the mental health field in the United States is almost in exact contrast to the Care Farm Model. Yet, in spite of all this, mental health providers are still seeking ways in which to introduce ecotherapy into common mainstream practice. These attempts are exemplified in the studies discussed prior which used natural materials within more traditional treatment settings. In that sense, it may be essential to the development of the field of Ecotherapy to consider Art therapy and the Expressive Arts Therapies as a potential shoe-in towards future accreditation as eco-therapy gains momentum in the U.S. Take for example, how established Expressive Arts therapists were able to engage clients in a meaningful and creative way using flowers. It would be in the interest of both fields to facilitate collaboration as eco-therapy could piggyback on the slightly more established field of the expressive arts therapies, and the expressive arts therapies could deepen and strengthen their clinical impact by folding in the core Eco-psychological concept of the importance of the individual within their natural environment.

Thus, the foremost recommendation derived from the above literature is that more research can only benefit the growing potential of the integrated eco and expressive arts therapies. Not only is the quantity of the research helpful, as more information is always beneficial, but it would be increasingly helpful if research moving forward were to provide larger sample sizes and additional quantifiable data to measure the effectiveness of any potential mental health treatments. This statement stands largely due to the nature of the United States Mental Health system and its tendency to value evidence-based practices which can easily lend itself to the medical model of treating mental illnesses and their associated symptoms. Plus, specific and

clearly delineated treatment interventions would be extremely useful in that clinicians might draw from existing interventions to begin integrating eco and art therapy in their own practices with clients. Lastly, in keeping with the recommendations of Artz & Davis (2017) expanding the introduction of eco/art therapy practices to widespread and diverse populations could not only help the field validate its own effectiveness, but it would uphold the integrity of the core values upon which ecopsychology was founded. Providing widespread mental health treatment using the eco/art therapies would not only encourage the healing of the individual within their natural environment but would also tap into the universal inherent tendencies of humans to be creative and to be relational, regardless of age, station or ability.

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