

THE HEALING PROPERTIES OF NATURE AND ANIMALS

By

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ABSTRACT

The following piece is intended to enlighten readers on alternative healing modalities as a substitute for traditional therapeutic interventions. The study reviews wide-ranging literature on ecotherapy and animal-assisted therapy. The objective is not to compare well-known therapies, such as cognitive behavioural therapy but to demonstrate the value of learning to incorporate what is already in one's possession (i.e. companion pets and gardening), all that we ought to live in harmony with, as a means to healing (Wilson, 1984). There are many psychological, physiological and social advantages in conducting therapy in nature and or through introducing animals to the therapy environment. Research demonstrates that ecotherapy and animal assisted therapy aids in elevating mood while reducing stress hormones and blood pressure, among other benefits. Existing research provides evidence for the two therapies (Gullone, 2000; Kamioka, Tsutani, Mutoh, Honda, Shiozawa, Okada, Park, Kitayuguchi, Okuizumi, & Handa, 2012). What is more, these two therapies may be conducted alone or together. Either way, they are cost-effective and have been shown to produce immediate outcomes (Custance, Hingley, & Wilcox, 2011). The paper further includes literature illuminating readers of the importance of such therapies as a means of protecting all of life. Our planet is facing issues such as climate change, deforestation, and extinction of animals. If humanity does not take responsibility and do its part in protecting the planet, the planet's healing effects will not be there to assist humanity. Ultimately, the aim is to facilitate further research on these two modalities as there is sufficient amount of work conducted on both therapies noting their psychological, physiological and social advantages; further to stimulate awareness to the importance of working in harmony with all that exists.

The majority of the research articles qualified under the following searches with no date or database specified: UBC Collections and Searches.

Keywords: ecotherapy, nature therapy, animal assisted therapy, companion animal, biophilia

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For my family: Junts you have carried me to dimensions that I would have not otherwise experienced. You have been my number one supporter and I am so grateful for your presence in my life. Thank you to my mother and father for being who they are- I have learned much from the both of you – I am who I am because of you two. Gare, Kris, I appreciate all that you have done for me over the years to get me to this point.

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and

For Sewa

Chapter 1. Introduction

1.1 Purpose of Study

There are many reasons why this review of literature is valuable to professionals in the field and others from different disciplines. The literature presented will highlight progressive changes experienced by an individual by merely implementing ecotherapy and or animal assisted therapy. Many people have an animal residing in their homes and many have access to a green exercise such as gardening. The two therapies inform and educate while allowing individuals to become once again intertwined with their surroundings: nature and animals. Additionally the two therapies, as will be delineated below, concurrently succor the entire ecosystem. The aim of this extensive literature review is to present data that demonstrates health benefits to an individual's psychological, physiological and social states by engaging such therapies. In this author's view the modern Western world and other first world countries have become too reliant on technological practices to aid in medical and psychological ailments. For instance, technological advancements are allowing for the ability to prolong life and manufacture medication, more specifically medication used for DSM-V diagnoses. These medications are allowing individuals to maintain their relationships and daily functions. Though technology has advanced, it does not necessarily insinuate that the individual will be nursed back to optimal health. The process of putting a patient through radiation or dialysis, for instance, can be extremely taxing for the patient. Moreover, medication such as anti-psychotics and anti-depressants may present side effects such as tremors or suicidal ideation. Therefore, my hope is for professionals to provide an alternative remedy that is cost-effective and has minimal side effects; for professionals to understand and utilize the natural environment in which we have dwelled in for centuries as human beings. In addition, to comprehend the importance of animals in our lives; not only can

human beings help domestic animals by providing homes and affection but in turn recognize how they, too, assist human beings. The purpose is to allow therapists to discern the benefits of incorporating animals and nature within the therapy process to effectively cope and manage the many ailments and conditions experienced by human beings.

1.2 Definitions

Ecotherapy: “This therapeutic work specifically includes horticulture and the conservation or establishment of open green spaces and wildlife for the primary purpose of improving the health and social inclusion of the individual (Burls, 2005, pp. 26).”

Ecotherapy will be used interchangeably with nature therapy.

Green Spaces: Refers to “deep wilderness, open countryside, forests, woodlands, national or country parks, nature of wildlife reserves, urban parks, grasslands, hills and valleys to domestic gardens and allotments” (Barton et al., 2009, pp. 262).

Animal assisted therapy: An “umbrella term for diverse therapeutic approaches, used with people of all ages (from children to the elderly), in which an animal is an integral part of the treatment process. Animal assisted therapy involves interactions in the therapy room between a client, an animal (usually a dog), and a therapist, with the aim of improving therapeutic outcomes” (Zilcha-Mano, Mikulincer, & Shaver, 2001, pp. 541).

Biophilia: As defined by Edward Wilson is “the innate tendency to focus on life and lifelike processes.” (Gullone, 2000, pp. 294).

Companion animal: As defined by the American Society for the Prevention of Cruelty to Animals, “companion animals should be domesticated or domestic-bred animals whose physical, emotional, behavioral and social needs can be readily met as companions in the home, or in close daily relationship with humans. (ASPCA, 2015).

Animal assisted therapy and ecotherapy are alternative methods and can be conducted outside the traditional therapy environment. The two therapies allow for human beings to be once again connected to Mother Earth and other species. The primary focus is to demonstrate the psychological, physiological and social impact the two modalities ensure. Moreover, theories and prominent figures are referenced however, though not explicated in depth, for a further understanding of the human condition and the connection between humans, environment, and animals. The two modalities are cost-effective and can be easily integrated into an individual's life without a formal prescription. Further, as there are no reported gender differences, it is speculated both men and women benefit from ecotherapy and animal assisted therapy. Additionally, nature and animals, regardless of gender, benefit, too. Lastly, ethical considerations for humans, animals, and the environment are also reviewed.

1.3 Author's view

I am on a spiritual journey awakening higher levels of consciousness within myself while attempting to comprehend interrelatedness of all that exists. I believe that all entities on this planet are intimately connected. Therefore I wish to do my part in aiding in the health of our planet, our home, and the species that belong to it. To the naked eye it is imperceptible how nature, animals and humans are related and yet they are, whether one is aware of the connection or not. The number of elephants decreasing on the Eastern Hemisphere may not be of concern to those in the Western Hemisphere. Further, the effects human activity has had on the biodiversity of our oceans presents challenges for all species. As these concerns are not in our present reality most human beings are not involved in their welfare. In my opinion, some areas around the world tend to disregard the negative effects of globalization and industrialization. Corporations are exhausting all natural resources on the planet and though activists' efforts are being

recognized, not enough is being done. Human beings may not perceive climate change and extinction of some species a major concern that impedes our existence in this very moment. This is so because we have become distracted. I am referring to the first world, individualistic, way of living. We are living in a world where our individual concerns are most important to us in the moment.

“Conserving nature and protecting species require people to act in ways that are not immediately, or obviously, connected to their own self-interest.”

Susan Clayton, 2013, pp. 214

If first world countries establish laws that protect the environment and endangered species we will be forced to think about the health of our planet. That being said, I have come to accept those folks and their journey. I recognize that we all have something to learn from the experiences we are having. My work lies in informing, educating, and advocating for my planet. Thus, from my understanding of the connectedness of all entities, I wish not only to aid human health but also the health of other species and the environment. As William Blake put it, ever so eloquently, “I must create a system, or be enslaved by another man’s. I will not reason and compare: my business is to create” (Jerusalem the Emanation of The Giant Albion, n.d.).

For my readers to understand my teachings and perspective, the following are some of the brilliant minds I explore and resonate with: Henry David Thoreau, Carl Jung, Alan Watts, Deepak Chopra, Irvin Yalom, Osho, and Gregory Bateson to name a few. They have all alluded to the connectedness of all entities, the importance of belonging and community, and each emanated by a sense of curiosity about life. I believe in learning and understanding from different points of reference and of course different disciplines. In doing so, I am able to paint a greater picture of the workings of human beings, the environment, and other species; this allows

one to further determine the interconnectedness of all entities. I simply wish to outline that which is affecting Mother Earth while accepting what is, taking responsibility, and making the appropriate changes. It is extremely effortless for most human beings to become caught up in their own concerns. The intention is for individuals to become cognizant of the connectedness of all that is around us; whether it be human to human interaction, human to animal, and human to nature, as we are constantly in communication with one another. For once we are aware of the effects of industrialization and globalization will we perceive the destruction that is taking place and expectantly take action. When we protect nature and other species, we are protecting ourselves.

“As long as man continues to be the ruthless destroyer of lower living beings he will never know health or peace. For as long as men massacre animals, they will kill each other. Indeed, he who sows the seed of murder and pain cannot reap joy and love.”

Pythagoras (Veganrabbit, 2014)

I will present two different modalities of therapeutic intervention: ecotherapy and animal assisted therapy. First, with respect to ecotherapy, I will begin with histories of man and his connection to earth and other beings. Subsequently elucidating the reader of the importance of attachment, touch, and belonging with respect to animal assisted therapy. The literature reviewed will highlight the psychological, physiological, and social advantages of each therapy.

Chapter 2. Literature Review

2.1 Perceived Separateness

Humans have been connected to nature and animals before the industrial revolution and before technology became an everyday feature in our lives. The separation has been triggered by “science, industrialization, and urbanization” (Vining, 2003, pp. 89). Technology has its

advantages however since its introduction to human beings there has been disconnect and a separation created between nature and humans (Vining, 2003; Vining, Merrick, & Price, 2008; Sackett, 2010). Though in actuality we require nature's existence for our own, there may be a misperception that we no longer are dependent on natural environments for survival (Vining, 2003; Scott, Amel & Manning, 2014). In view of the fact that all is connected it is of great importance to be cognizant of the ills faced by the Earth and animals as a result of the growing industrialization of our world. Gullone (2000) states "the modern industrialized style of living characteristic of Western individualistic societies is not conducive to mental well-being" (pp. 306). There are many reasons why an urban setting may generate stress, for instance, population density, air pollution, and increasing lack of accessible green spaces (Ulrich, Simons, Losito, Fiorito, Miles, & Zelson, 1991). Many of the issues that create our stress are things we may have little control over. However we do have control over our distress; the stressors mustn't affect our being. Though there is a need to develop a better world for all. Due to economic and political greed certain issues are being overlooked. Animals such as tigers, bears, and lions around the world are shrinking in numbers while the biosphere is losing biological species and life (Bekoff, 2013). Fortunately, therapists are waking up to the changes that are occurring around them: climate change, pollution of water and air, "depletion of the ozone layer" (Tudor, 2013, pp.316; Kanner, 2014), and the misuse of nuclear energy; further, noting the effects of such environmental concerns on human beings and animals. Ecotherapy is a way of relating, once again, with natural environments. Ecotherapy aids in healing the earth and in turn, as the literature review will illuminate, healing human beings.

Interestingly, Vining et al. (2008) found participants in their study "believe that humans are inherently a part of nature" (pp. 8). This is further supported by Ulrich (1984) as he found

human beings have a natural tendency to prefer natural environments over urban settings. Thus the perception of separation with nature may be due to proximity to natural environments (Vining et al., 2008; Scott et al., 2014; O’Haire, 2010). In other words, and as addressed above, due to urbanization in major cities, nature may be becoming difficult to access. Moreover, there has also been a separation between humans and animals. In the past, and in many cultures, animals were revered and once worshipped and thought of in a spiritual sense. Since the separation between humans, nature and animals, humans beings have kept a few animals in the home; this may be a result or consequence of urbanization and limited space. This also may be due to an unconscious need to be closer to animals and nature for when one has a companion pet, it drives one to nature (Vining, 2003; Vining et al., 2008; Odendaal & Meintjes, 2003). This intrinsic need to be close to animals has led humans to become involved in their wellbeing and safety (Vining, 2003; Keniger, Gaston, Irvine, & Fuller, 2013); this inherent necessity is further explained below by the use of the Biophilia hypothesis.

2.1.1 Human beings and Earth

Human beings have had a relationship with the earth for quite some time and continue to today. However, the connection and relationship between the two has proven fragile. Erich Fromm, a psychoanalyst, proposed the Biophilia hypothesis to further elucidate the connectedness.

Biophilia is an entity’s biological desire to be connected to all aspects of life, such as, animals, plants, and climate (Greenleaf, Bryant, & Pollock, 2013; Custance, Hingley, & Wilcox 2011; Scott et al., 2014; O’Haire, 2010; Wilson, Ross, Lafferty, & Jones, 2009; Beetz, Uvnas-Moberg, Julius, & Kotrschal, 2012). Biophilia literally means love of life; “Frommian biophilia is the passionate love of life and of all that is alive; it is the wish to further growth, whether in a person, a plant, an idea, or a social group” (Gunderson, 2014, pp. 188). Fromm proposed two “inherent

and fixed factors of human nature: the need for self-preservation and the need to solve an “existential dichotomy” (Gunderson, 2014, pp. 186). Fromm suggests humans have become aware of “their separateness from nature” (Gunderson, 2014, pp. 186), which creates meaningless and fear of isolation. In Fromm’s idea of biophilia he is attempting to ascertain relatedness; this hypothesis speaks to the purpose of the literature review. This relatedness may not be easily perceived by all; it rather requires a certain curiosity and way of thinking that is not of the norm.

Fromm was not the only brilliant mind that fathomed the connectedness of all entities on Earth. Anthropologist, psychologist, and cyberneticist, Gregory Bateson, made it his life’s work to understand the interdependencies of all that exists. Bateson hoped to uncover how complex systems operate and interconnect information between one another (Bateson, 2011). He believed that all things- humans, plants, and animals, are relating and communicating at all times. Bateson, too, did not see Earth as functioning separately from humans and other entities (Bateson, 2011). In fact, if a piece of land is deforested, humans and animals will be affected whether the change is perceived by other entities or not (Bateson, 2011). Bateson was curious about the way human beings thought. He was curious about, just as I am now, what prevents human beings in seeing the interdependencies of all that surrounds us. Ultimately, when we express separateness to other entities on earth we construct limits and boundaries that did not exist prior to such perceptions, therefore making it difficult to perceive the interrelationships (Bateson, 2011). It is Bateson’s mode of thinking that is most alluring as he attempts to connect all that is around him rather than disconnect, label, and in due course create an illusion of separateness (Bateson, 2011).

“What is man without the beasts? If the beasts were gone, men would die of a great loneliness of spirit. For whatever happens to the beasts, soon happens to man. All things are connected. Man did not weave the web of life; he is merely a strand in it. Whatever he does to the web, he does to himself.”

Chief Seattle

The natural world is what gives us human beings life, the ability to breathe, cleanse the atmosphere, and cultivate more life forms. Should we then, as human beings, not assume responsibility for the welfare of our natural environments? As you will soon come to appreciate, we are connected to everything on this planet, intricately intertwined, and interconnected to Mother Earth (Bekoff, 2013). The more time one spends in natural environments and with animals the higher one's connectedness to such entities. Both animals and natural environments aid in prolonging an individual's life due to the psychological, physiological, and social benefits (Vining, 2003; Scott et al., 2014; Keniger et al., 2013).

2.1.2 Ecotherapy

Researchers have noted the Western society's divorce from nature with findings that suggest great health risks. The technological advances, industrialization, and cultural changes have not proven beneficial to human beings' psychological well-being (Gullone, 2000; Keniger et al., 2013). Greenleaf and associates (2013) suggest Western culture, for the most part, lacks meaningful connection to the natural environments. This lack of connectedness to nature increases one's risks of experiencing isolation, meaninglessness, and despair (Greenleaf et al., 2013). Burls (2005) reports Western society lives quite comfortably though many individuals are unhappy, anxious, and suffer from meaninglessness. This may be due to the “never-ending but also unfulfilled material need” (Burls, 2005, pp. 27). Nevertheless, encounters in nature are

becoming unconventional (Berger, 2010). Studies have attempted to capture prevalence of mental health concerns around the world. However, detecting expression of certain DSM-V disorders in some countries has proven difficult (Gullone, 2000). This may be the case as different countries and cultures may present different labels, explanations and interventions. Therefore the diagnoses may not be as streamlined across the globe as researchers would hope for. Nevertheless, North America and Western Europe demonstrate higher incidence of depression compared to other continents (Gullone, 2000). Interestingly, “the most marked increases in psychopathology, particularly in developed countries, have occurred post-World War II, which coincides with an increasingly rapid pace of human manufactured change, provides important support for the biophilia hypothesis” (Gullone, 2000, pp. 310). The environments that some are immersed in are unhealthy to the mind and body, so appropriate action must be taken to relieve an individual of the possible ailments that may be experienced.

In order to restore oneself, Herzog, Black, Fountaine, & Knotts (1997) proposes restorative environments that contain the following features: removing oneself from the environment that triggers the attentional fatigue into an environment that is differing; immerse oneself in a setting that is light and unable to produce directed attention (i.e. being around animals or water); and a setting that is encouraging of one’s preferences (Berto, 2014). Attention Restoration Theory (ART) suggests that excess directed attention to a particular task may lead to exhaustion (Herzog et al., 1997). As defined by Herzog et al. (1997), “directed attention is the kind that requires mental effort because the material attended to is not attractive or interesting, and that maintains focus by inhibiting distractions” (pp. 165). Excess directed attention creates irritability, difficulty concentrating, and presents a higher risk of committing errors (Herzog et al., 1997). Therefore modern day environments that are seen in developed countries may lead to

attentional fatigue. Additionally, Herzog et al. (1997) found urban settings produce little restorative abilities as they are over stimulating (Keniger et al., 2013) compared to natural settings (Berto, 2014; Ulrich et al., 1991).

The subsequent studies illustrate the powerful effects of nature on the human mind and body. Ulrich (1984) found post-surgical patients who were provided a room with a window view of a natural environment spent considerably fewer days in the hospital, received positive feedback regarding recovery, and required fewer pain relievers compared to the patients that were provided a room with a window view of a brick wall (Wilson et al., 2009). In another study, Ulrich and colleagues (1991) presented images to participants of natural and urban settings; they found images of natural environments held participants' attention while producing increased positive moods and declines in fear responses. Nevertheless, the research does not extrapolate suggesting that restorative practices cannot be produced in urban environments (Berto, 2014). However, it is important for those living in urban environments to reset. Resetting oneself includes submerging into rich ecological surroundings; where one is able to explore, utilize one's imagination, and most importantly develop fascination and appreciation of such environments (Herzog et al., 1997).

As a result of the absence of submerging oneself into natural environments one may experience physiological, psychological, and social disadvantages. Greenleaf and colleagues (2013) found "American children average just 30 minute a week of unstructured time outdoors, compared to 52 hour a week of electronic media exposure" (pp. 163). Additionally, Barton, Hine, & Pretty (2009) found an increase in children travelling via car rather than walking to school. Research has illustrated youth are more inclined to choose a natural environment to dwell in when access to technology such as television and computers is limited (Sackett, 2010). The

lack of physical activity is affecting individuals of all ages. In most first world countries there has been a decline in physical activity in the workplace (Barton et al., 2009). Berto (2005) assayed participants' capacity to renew their attentional ability. Research infers participants that observed restorative (i.e. nature scenes) as opposed to non-restorative (i.e. scenes of urban cities) scored better on the Sustained Attention Task (Berto, 2005). In other words, attention was rejuvenated from mere sights of natural environments (Vining, 2003). Further, Berto (2014) found urban scenes triggered activity in the amygdala, a structure located in the limbic system of the brain, which is connected to anxiety, stress, and impulsivity; while natural scenes heightened activity in the anterior and the insula of the brain, which is connected to empathy. Thus, urban residents must find ways to recuperate when fatigued and experiencing exhaustion, as explained above. It is an innate quality human beings possess; when the mind and body are not able to reset one will notice one's health decline. Resetting via ecotherapy may involve nature walks, gardening and much more; it is cost effective, (Custance et al., 2011) and for most, easily accessible.

Ecotherapy, or nature therapy, allows for individuals to be in the center of uncertainty. Being in the midst of uncertainty may drive one to consider universal or existential questions about oneself (Berger, 2010; Berger, 2012). The primary emphasis of nature therapy is the reconnection between human beings and their natural setting (Burls, 2005). Thus, a therapist proposing a "green exercise" such as gardening, walking, or horseback riding will in turn accrue physical activity while enhancing physiological and psychological conditions (Barton et al., 2009; Custance et al., 2011). Nature therapy utilizes creative interventions, such as, drama therapy, transpersonal psychology, shamanism and rituals to aid in a client's progression and overall journey (Berger, 2010; Berger, 2012). Individuals can also participate in expressive art

therapy and dance therapy. Moreover, being outdoors may trigger memories that aid in the therapeutic process and rapport building (Berger, 2010). These activities may be accomplished with a therapist or on one's own. Ecotherapy in the therapeutic process is a way of educating an individual that there are inexpensive methods that bring about healing. Therefore, to recuperate from one's unhealthy state of mind one must discover curative strategies. Therapists may encourage altering one's climate or environment as it will derive positive results which in turn improve effects to one's mind and body (Tudor, 2013).

2.1.3 Psychological Benefits

The psychological effects of being in a green space are immense. Greenleaf et al. (2013) presented notable findings that confirm the importance of nature therapy. Again, nature therapy is defined as being immersed in a green space of some sort. Nature therapy has been utilized in cases of schizophrenia, anxiety, and depression, among many other concerns (Berger, 2012). It has been noted a "lack of access to green space has been positively linked with stress, anxiety, and other DSM-IV-TR disorders" (Greenleaf et al., 2013, pp. 165). Individuals struggling with major depressive disorder experience "cognitive impairments such as compromised working memory, and by affective impairments such as persistent negative mood" (Berman et al., 2012, pp. 300). However, studies have demonstrated green spaces encourage positive changes to one's well-being as such environments decreased depressed moods (Kamioka et al., 2012; Berto, 2014; Wilson et al., 2009) and improved self-esteem (Barton et al., 2009).

Greenleaf and associates (2013) further substantiate these finding as they found individuals who participated in walks in nature demonstrated lower levels of depressed mood while increased self-esteem compared to individuals who participated in walks to the shopping center (Greenleaf et al., 2013). Furthermore, it has been noted that individuals who live close to

natural environments experience calmer moods; thus indicating those who experience elevated moods such as anger and anxiety benefit from natural environments. Additionally, Kellert (2002) finds that being in nature augments one's mood and working memory span. Green exercises also improved attention deficit hyperactivity disorder symptoms (Greenleaf et al., 2013). There is a particular emphasis on non-verbal communication which enhances imagination while processing emotions in the body (Berger, 2012). Further, placing plants in the home or office, and having photographs of natural environments, act as an indirect contact and mimic the positive advantages (Keniger et al., 2013). Nature tends to distract the mind, decreasing negative emotions, while allowing for the body to process and reset.

2.1.4 Physiological Benefits

Ecotherapy has been noted in promoting overall physical well-being (Gullone, 2000). Green spaces have been demonstrated to enhance physiological states such as mood, while decreasing stress levels (Barton et al., 2009). Green spaces or landscapes aid in reducing stress levels while positively benefiting “the following: blood pressure, alpha brain wave amplitude, parasympathetic nervous activity, muscle tension, blood glucose levels...and mental health status” (Kamioka et al., 2012, pp. 86). Further, self-report surveys, in a study reviewed by Keniger et al. (2013), indicate a reduction in stress related headaches for those who regularly utilized parklands for physical activity. It was noted that the physical appearances of green spaces did not act as a barrier with respect to the advantages; both park and forested land demonstrated positive effects (Keniger et al., 2013). Therefore becoming immersed in a green space and simply changing environments stimulates hormonal balance.

2.1.5 Social Benefits

Nature therapy posits postmodernism has reduced the capacity to connect with one's environment and others (Berger, 2012; Keniger et al., 2013). The lack of connection to one's environment may accrue risk for mental health concerns; those struggling with mental health concerns have augmented their risk for developing physical health issues (Wilson et al., 2009). Green spaces allow for enhanced social interactions as they act as meeting areas in the community (Greenleaf et al., 2013; Custance et al., 2011 Wilson, et al., 2009). Ecotherapy, for some, may become a collective experience where the members of the group influence one another while embracing the natural environment (Burls, 2005). The coming together of a people increases interconnections, enables social bonding and moreover stimulates leadership potentials in those involved (Wilson et al., 2009; Keniger et al., 2013). The collaborative work and common goals of a community can lead to a movement where individuals can ultimately protect the environment while benefiting from its effects. This further may provide the impetus for individuals to educate others about conservation and thus initiate change in a person, society and culture.

Mental health facilities have been incorporating activities in nature such as gardening and horticulture (Berto, 2014). Berto (2014) found group activities in such facilities aid in destigmatizing mental illness while building connections with staff and peers. Further, individuals who are able to access programs such as these feel more involved in the community and experience higher levels of social inclusion (Berto, 2014). This form of community and connection further enhances one's interpersonal skills and relations (Wilson et al., 2009). Individuals are not only learning to build and maintain connections but also to physically utilize their bodies. Further, instead of attending therapy in a traditional environment, which is typically representative of a traditional office space with artificial lighting, a therapist may

choose to conduct the session outdoors (Sackett, 2010). It is important that the association between exercise and its ability to enhance one's mental health be considered when implementing interventions (Sackett, 2010; Wilson et al., 2009).

Ecotherapy encourages green exercises, which in turn promotes physical exercise, and is ultimately positively associated with mental well-being (Sackett, 2010; Wilson et al., 2009). It has been noted that individuals who struggle with depression will attain parallel results exercising, such as increased mood, as those would from anti-depressant medication (Wilson et al., 2009). Exercise may be accomplished in many ways; it does not connote one must spend money on gym memberships. In fact, the intention is to promote an economical alternative: nature (Wilson et al., 2009). Exercising in a green space has revealed further benefits than exercising in an urban surrounding (Wilson et al., 2009). In my view, professionals in the field of psychology must educate and advocate on behalf of their clients; they have the capacity to reconnect clients back to nature while going against society's harmful inclination to be less active (Sackett, 2010).

2.1.6 Limitations

As with any modality, ecotherapy, too, comes bearing limitations. Ecotherapy is still in the early stages of becoming a well-known therapeutic model and thus requires much empirical research (Herzog et al., 1997; Keniger et al., 2013). There is an insufficient amount of longitudinal studies; most of the experiments rely on self-report surveys for data which leave the study unfit to be recognized as empirically based (Keniger et al., 2013). Moreover, one may only have access to a green space where the vegetation proves to be an issue (Barton et al., 2009) and limited natural options (Mitchell & Popham, 2007). Further, the weather, too, may influence affective states (Barton et al., 2009). What is more, physical limitations may hinder certain

populations from taking part in the ecotherapy (Berger, 2010). Additionally, in Ulrich's (1984) experiment there was an exclusion of individuals who struggled with histories of psychological instabilities. Though it is clear from the research findings that natural environments produce positive effects on psychological, physiological, and social aspects, it would be interesting to note and observe individuals recuperating after surgery while struggling with a DSM-V diagnosis. Therefore, long term studies are required which consider participants' culture, psychological, physiological, and social history and current conditions (Barton et al., 2009).

In addition, individuals who have experienced trauma within a natural setting may not respond well to this type of therapy (Greenleaf et al., 2013; Berger, 2010). This is so as the individual may be triggered and therefore gradual steps to ecotherapy must be considered. Further, though Mitchell & Popham (2007) found that an increased amount of green space in an area is connected to increased well-being, stressors such as income, were a contributing factor to health regardless of the green spaces. This may be due to the cost of living rising in many cities which is keeping individuals working long hours and is ultimately producing a stressful disposition. Finally, ecotherapy, in particular being in natural settings, may pose a threat to one's safety as there are wild animals and or poisonous plants that the therapist may be unaware of. Such experiences create a level of uncertainty that may present safety concerns rather than the anticipated discovery and insight about oneself. Finally, further research is required with respect to differences between socio-economic status, culture, and areas around the world that lack green spaces; also whether all natural environments provide similar effects (Keniger et al., 2013)?

2.1.7 Summary

Ecotherapy aids in bringing stability to one's cognitions and affective disposition. An individual spending the majority of his or her time indoors may experience increased susceptibility to the

following health concerns: obesity, heart disease, cancer, mental depletion, loss of emotional control, depression, and other psychiatric disorders (Greenleaf et al., 2013). Natural environments, as stated above, produce positive effects on the mind, distracting one's thoughts, while simultaneously producing equilibrium in the sympathetic system (Wilson et al., 2009). Ecotherapy aids people from many different backgrounds who struggle with diverse issues (Burls, 2005; Keniger et al., 2013). Such environments - physically being in a green space - facilitate the reduction of stress, anxiety, and fear (Ulrich, 1984). Additionally, being in nature permits one to experience deep connection with oneself and the environment while increasing mental, physical and social well-being. One may reconnect with nature through a green exercise. As mentioned above, green exercises include, biking, gardening, walking, farming, horse-back riding, and fishing, which ultimately propel improvements in one's mental and physical well-being (Burls, 2005). More specifically, green exercises positively enhance mood and self-esteem (Greenleaf et al., 2013). Though there are a few limitations to ecotherapy, they do not insinuate that the therapy is ineffective. Most importantly, the research into human and animal interaction has been increasingly popular in the recent years. Brodie & Biley (1999) affirm this may be due to the "green revolution in which society is trying to re-establish links with nature, including plants and animals" (pp. 329).

I will now discuss animal assisted therapy. I have chosen two alternative therapies that therapists may recommend and individuals may access on their own if therapy is not an option. One of alternative which has been addressed is taking oneself to nature. One can be in one's own company, in solitude, or with friends, family and even pets. The next therapy is related to nature therapy, this is so as animals, too, drive human beings to natural environments (Wood, Giles-Corti, Bulsara, & Bosch, 2007). Animals have a remarkable ability to heal human beings;

stroking an animal for half a minute allows for a neuropeptide, oxytocin, which is present in both parties to be released; oxytocin is known to be a natural anesthetic (Levinson, 1984). I will begin by speaking about the similarities between animals and human beings. Following with a review of attachment; moving along to the importance of touch, and finally reviewing the psychological, physiological, and social benefits of animal assisted therapy and or animals in one's life.

2.2 Animal Assisted Therapy

2.2.1 Attachment

The animal and human bond is truly therapeutic and a source of great healing (Ford, 2013; Walsh, 2009). Companion animals, pets, can act as a replacement for traditional clinical modalities (Ford, 2013). Animal assisted therapy allows for individuals to understand the importance of animals in their lives; in fact, humans are not much different than the animals they have separated themselves from while simultaneously disregarding their health and safety. Specifically, human biology and psychology shares many similarities with other animals. For instance, chimpanzees may experience depression, stallions have been known to self-mutilate, and elephants hunt for psychotropic berries to achieve altered states (Natterson-Horowitz & Bowers, 2012). Additionally, animals also experience emotions such as love, shame, and regret (Natterson-Horowitz & Bowers, 2012). What is more, humans and animals operate similarly when in danger. For instance, some animals experiencing life-threatening situations urinate or eliminate waste to deter predators from attacking (Natterson-Horowitz & Bowers, 2012). Hence, those who educate on rape prevention have often instructed victims to vomit or urinate when in danger of rape (Natterson-Horowitz & Bowers, 2012). Moreover, in times of danger, animals and humans have been known to respond in such a way that appeases the struggle and permits

escape. This physiological response is referred to as bradycardia which allows the heart rate to decrease demonstrating a lifeless animal or human (Natterson-Horowitz & Bowers, 2012).

Moreover, elephants demonstrate their social intelligence, ability to mourn and feel emotion, while also demonstrating high levels of cognitive capability (Walsh, 2009). Elephants like many other animals have demonstrated their ability to establish an attachment bond with their offspring (Walsh, 2009). Wolves, dolphins, and whales have demonstrated complex communication and socialization processes. Dogs, having been around human beings for centuries, demonstrate ability “to read human cues and behaviour, accurately interpreting even subtle hand gestures and glances” (Walsh, 2009, pp. 469). Therefore, there are many similarities between animals and human beings, from medical to psychological responses, thus further indicative of our connectedness.

Animals have been a helpful force to human beings for centuries and now they are being brought into the therapy environment as co-therapists. It has been recorded that humans and dogs have been interacting for approximately 12, 000 years, with recent studies revealing American Indians having domesticated dogs approximately 30,000 years ago (Brodie & Biley, 1999; O’Haire, 2010; Walsh, 2009). Animals were kept in the homes of royalty for comfort and protection purposes (Walsh, 2009). Beguilingly the Greeks presented horseback riding to individuals struggling with chronic illnesses in order to elevate their disposition (Willis, 1997). Furthermore, one of the earliest animal assisted interventions for people with mental health concerns was recorded in 1790s at York Retreat in the United Kingdom. These patients were encouraged to spend time with, and care for, domestic animals while outdoors in the gardens (Palley, O’rourke, & Niemi, 2010). Animals have played a colossal role in human history and continue to today (Nepps, Stewart, & Bruckno, 2014). Additionally, in history, many religions

such as Islam and Judaism found it essential to develop teachings and guidelines with respect to the treatment of animals (Walsh, 2009). Animals assisting in therapy have been beneficial in many respects, more specifically in allowing the therapist to observe client-animal interaction. Researchers posit that animals can aid therapists in determining attachment styles and respectively modifying the style (Zilcha-Mano et al., 2011; Sable, 2013).

As per the attachment theory, which was formed by John Bowlby and later improved by the works of Mary Ainsworth, an infant will form an attachment style with his or her primary caregiver (Bretherton, 1992). Attachment in humans is formed during early childhood between the child and the attachment figure. Through observation, there are attachment types that the child may be subsequently categorized into (Bretherton, 1992). In order to achieve a secure attachment style it has been noted that a child must experience closeness, recognizes the caregiver providing sanctuary, and most importantly there is consistency in the relationship between the caregiver and child (Bretherton, 1992). Eventually as the child ages new relationships develop along with new attachments. The attachment style may or may not differ from the primary caregiver in early childhood; this depends on the level of security and intimacy provided in each relationship. Therefore, Zilcha-Mano et al. (2011) suggest the attachment styles can be altered with a companion animal or pet; thus pets may be considered as attachment figures (Sable, 2013). For human beings, secure attachments in the early stages of life lead to healthy psychological and developmental growth (Campbell, 2010). As mentioned above, attachment depends on the type of connection between primary caregiver and child. Campbell (2010) found the French to be more “physically affectionate” to their children than American parents (pp. 370). Her findings put forward that the affection received is translated into the children being open and relaxed, displaying low levels of anger compared to their American

counterparts (Campbell, 2010). Since norms, values, and parenting styles differ all over the world, so do the respective attachment styles.

In utilizing an ethological-evolutionary framework of attachment when observing an individual, it has proven beneficial to note the relationship with that individual's companion pet. This is so as the relationship will reveal underlying forces of attachment that may represent the commitment and affectionate feelings aimed toward the companion pet (Sable, 2013). Whilst attachments are built during childhood they may be altered with different relationships. Secure attachment relies on emotional accessibility and physical proximity of attachment figures; such relationships can be found in companion pets (Sable, 2013). This, of course, does not mean that companion pets achieve all attachment standards, though many of the associated functions are satisfied: availability, comfort, and openness (Sable, 2013; Nepps et al., 2014). Additionally companion animals provide a source of touch that allows for feelings of closeness and security to commence.

2.2.2 Touch

Levinson (1984) emphasizes the use of touch in therapy as the basic need for "contact comfort never disappears" (pp. 134). Levinson (1984) found studies that indicated animals require the same level of comfort and touch as humans. In fact, dogs deprived of their mother demonstrated depressive symptoms (Levinson, 1984). Levinson (1984) not only speaks to the advantages of a companion animal, but also to human beings and their connection to the natural world. The effects of touch are engrained and innate in humans and animals. The first feeling newborns experience upon birth is human contact, embrace, and warmth. Touch is of great importance to human development. Ardiel & Rankin (2010) report higher risk of infections, delays in brain development and attachment disorders as a result of sensory stimulation

deprivation. Specifically, mechanosensory stimulation, which is mechanical stimulation of the senses such as touch; mechanosensory stimulation aids in growth and normal development (Ardiel & Rankin, 2010). Studies on rats and monkeys demonstrate stroking as a means of synaptic organization and recovery (Ardiel & Rankin, 2010). Therefore, even if damage has been done during childhood, one may recover by the means of the healing properties of touch.

Levinson (1984) believes we animals have an instinctive need for touch. Touch and physical contact is what is known upon the first six months of a child's life; that contact becomes a necessity. Such contact discharges endorphins that ultimately relieve an individual of feelings of anxiousness. "Soft contact begins to evoke experiences of being loved and secure. Soft touch and stroking sensations reduce tension and produce relaxation. Soft contact brings about the blocking of the "opiate receptors" in the limbic system, corpus stratum and hypothalamus through the production of "endorphins", a by-product of complex, biochemical reactions in the brain which are not yet fully understood. They act the way morphine does, by creating euphoria" (Levinson, 1984, pp. 133). Physical contact or touch increases oxytocin levels while decreasing cortisol resulting in a reduction of pain and improvements in attentiveness (Campbell, 2010). For instance, touching or stroking for 30-45 seconds releases oxytocin, which reduces stress, improves immune function and overall health (Montagu, 1984; Sable, 2013; Walsh, 2009).

"We no longer learn by osmosis."

Levinson, 1984, pp .141

Oxytocin is a neuropeptide manufactured in the hypothalamus (Campbell, 2010) of the brains of mammals (Carter, Pournajafi-Nazarloo, Kramer, Ziegler, White-Traut, Bello, & Schwertz, 2007; Beetz et al., 2012). Oxytocin assists in birth, lactation, and further in social bonding and the alleviation of stress (Carter et al., 2007; Campbell, 2010). Additionally,

oxytocin has also been positively associated with immune and cardiovascular function (Carter et al., 2007). Though oxytocin receptors exist in both sexes it is of particular importance to females as it aids in the process of birth and lactation. Moreover, during such processes, estrogen aids in increasing the amalgamation of oxytocin and responsiveness with oxytocin receptors (Campbell, 2010). The advantages of this neuropeptide seem endless; it has further demonstrated analgesia producing qualities, reducing inflammation and assisting in the healing of wounds (Carter et al., 2007; Beetz et al., 2012).

Animal assisted therapy may be utilized for individuals of all ages and for a multitude of concerns (Zilcha-Mano, Mikulincer, & Shaver, 2011; Palley et al., 2010). Many different facilities have had animals assisting in therapy such as long term, psychiatric and rehabilitation facilities (Palley et al., 2010; Nepps et al., 2014; Wood et al., 2007). Animal assisted therapy aids in social, emotional and cognitive functioning and thus has a positive impact on overall human well-being (Palley et al., 2010; Haylock & Cantril, 2006; Vining, 2003; Knight & Herzog, 2009). The simple act of petting or touching the animal not only releases oxytocin in the individual touching but the same process occurs in the animal, also. As addressed above, oxytocin increases trust and social interaction (Campbell, 2010; Odendaal & Meintjes, 2003; Sable, 2013). Finally, and most importantly, pets or animals assisting in therapy are non-judgmental, provide love unconditionally, and are loyal when treated well (Zilcha-Mano et al., 2011; Walsh, 2009).

The author would like to ensure the readers are aware of the differences between animals assisting in therapy and companion animals. The positively associated benefits from psychological and physiological to social, are noted in both animals assisting in therapy and companion animals. The difference being, animals assisting in therapy are trained as are the therapists working with them. The therapist is to observe the relationship between animal and

client and therapist and client; the content of the session will come from the interactions between all the parties. The hope is to establish goals while providing a safe and secure environment. Nonetheless an animal assisting in therapy may merely be attending the session and not interacting with the client. This may allow the client to unconsciously demonstrate openness; feel secure, and further in observing the therapist's interaction with the animal may stimulate rapport building. However, companion animals are not typically trained as therapy animals. They are animals that human beings have provided a home to while guaranteeing their safety and well-being.

2.2.3 Psychological Benefits

Companion pets possess the characteristics outlined by Carl Rogers (1989): openness in accepting most humans, warmth, unconditional positive regard, and they are nonjudgmental (Phillips Parshall, 2003; O'Haire, 2010). It has been suggested that individuals who have a difficult time trusting others, for instance as a result of a traumatic event, may trust a companion animal. This may in turn allow for the corrective aspect of the attachment style to take place, with respect to "adaptive feelings, expectations, and behaviours" (Zilcha-Mano et al., 2011, pp.549). Clients who project their attachment style on to a pet or animal assisting in therapy become products to work with. The therapist may ask a client who owns a pet what their relationship is like between the two, in order to determine attachment and signs indicative of other interpersonal relations (Zilcha-Mano et al. 2011). Clients, with the aid of their therapist, can in turn enhance their interpersonal skills while working with an animal (Zilcha-Mano et al. 2011). Further, clients have also responded to the therapist's interactions with the pet, noting the therapist's love, openness, consistency, and firmness (Zilcha-Mano et al. 2011).

Animals have been found to generate empathic behaviour in human beings (Marcus, 2013; Beetz et al., 2012). Levinson (1984) describes the experience of having an animal present provides a “non-verbal communication of unconditional positive regard” (pp. 139). Further, Zilcha-Mano et al. (2011) suggest that clients who create a secure bond with the pet in the therapy session may in turn form a secure bond with the therapist. Animals within the therapy session are a source of consistency and relaxation (Brodie & Biley, 1999). Animals in sessions help by reducing “initial resistance, constraints, and reservations that may arise from entering therapy” (Zilcha-Mano et al., 2011, pp. 551). Further, an animal aids in allowing the client to be in touch with her or his inner self (Levinson, 1984). Animal assisted therapy has been noted to increase therapist-client rapport while further assisting in client’s externalization of her or his problems (Nepps et al., 2014). In addition, for children the animal may be involved in the listening process, for instance, “Tell Lassie what happened the other day, I am sure she would love to hear about it.” (Phillips Parshall, 2003). As noted above, animals assisting in therapy are capable of working with any age group.

Animal assisted therapy may be used for many different populations alleviating many human ailments; for instance, Kemp et al. (2014) found animal companions to improve the self-esteem of prisoners. Companion animals or animals assisting in therapy aid in decreasing loneliness and therefore relieving boredom and increasing a sense of acceptance and most importantly a sense of responsibility (Phillips Parshall, 2003; Natterson-Horowitz & Bowers, 2012; Odendaal & Meintjes, 2003). O’Haire (2010) found simply looking at a dog decreased an individual’s feelings of anxiousness and stress. Traditional interventions such as cognitive behavioural therapy may not be operational for all populations. Therefore having an animal present in therapy allows clients to recognize goals (Kemp et al., 2014). There are a few different

animals that are typically utilized in therapy; popular animals to bring into the therapeutic session are dogs and horses (Kemp et al., 2014).

Horses can teach humans much about being in the here and now as they are very much in harmony with their surroundings (Ford, 2013; Haylock & Cantril, 2006). Equine (horse) facilitated therapy is utilized for many psychological disorders such as “anxiety, mood, psychotic disorders, language, learning and attentional disorders, eating disorders, behavioural, and personal difficulties, physical disabilities, and significant life changes (i.e. divorce, grief and loss)” (Ford, 2013, pp. 95). Equine facilitated therapy further aids in a “sense of personal empowerment, ability to focus and manage hyperactivity and emotion, effectiveness in communication, effectiveness in creating and maintaining healthy relationships, improved skill with conflict resolution, overall psychological distress, depressive symptoms, and negative social behaviour such as hostility and aggression” (Ford, 2013, pp. 96). Additionally, horses aid in increasing self-efficacy, social assurance, and self-esteem (Kemp et al., 2014). These wild animals are intuitively accustomed to the body language and feelings of humans and other animals (Kemp et al., 2014). Animals assisting in therapy, as Kemp and associates (2014) validate, are particularly helpful for children who suffered sexual abuse. This is so as other forms of therapies may not be suitable for children who may lack the ability to verbalize their emotions and cognitions (Kemp et al., 2014). Animals assisting in therapy allow for a rapport and bond to be built between all parties. What is more, animals aid in decreasing arousal levels of hyperactive children while improving hyper-vigilance in PTSD patients (Kemp et al., 2014). Equine therapy assists in building a bond between equine and human which further aids in strengthening an individual’s ego, social abilities, and confidence (Haylock & Cantril, 2006).

As addressed above, the benefits of touch are remarkable. Since there is little touch involved between the therapist and client, the presence of an animal may assist in alleviating certain symptoms (Ford, 2013). Animals are a source of touch, unconditional love, exercise (Willis, 1997; Natterson-Horowitz & Bowers, 2012), and security (Ford, 2013; Brodie & Biley, 1999; Phillips Parshall, 2003). Moreover, researchers confirm an animal's ability to promote physical and mental well-being (Phillips Parshall, 2003), while positively refining mood and self-efficacy (Vitztum, 2012; Stanley-Hermanns & Miller, 2002). Kemp et al. (2014) found being in physical contact (i.e. touching or petting) a dog for five minutes each day demonstrated a decline in anger, feelings of anxiousness, rigidity, and argumentativeness (Beetz et al., 2012). Additionally, grief and loss or termination of therapy allows the therapist to involve an animal to assist in the therapy process. Clients who are struggling with grief and loss can further explore their concerns by speaking to separation from the animal assisting in therapy (Zilcha-Mano et al. 2011). Furthermore, therapists may wish to focus a few sessions on coming to the end of therapy. This is so as the termination of animal assisted therapy or therapy in general may give rise to existential concerns, such as meaninglessness, loss and death, freedom, and isolation.

2.2.4 Physiological Benefits

Humans and animals are able to learn by observing others as both species possess neurons that make it possible to mirror a behaviour or emotion. Researchers have found that mirror neurons are activated when observing another person or animal (Marshall, 2014, Iacoboni, 2009). Researchers uncovered "the same brain regions that fired when people smelled something disgusting also were active when people saw someone else making a disgusted face" (Marshall, 2014, pp. 6531). Thus denoting human beings are capable of modeling and learning unconditional love and acceptance from an animal assisting in therapy and or a companion pet.

In another study the same was observed “...when the monkey performs goal-oriented actions such as grasping an object, holding it, manipulating it, and bringing it to the mouth, but also when the monkey, completely still, simply observes somebody else performing these actions. Because of these properties, which almost suggest that the monkey is observing its own actions reflected by a mirror, these cells were called mirror neurons” (Iacoboni, 2009, pp. 659). Mirror neurons are understood differently by different researchers. Therefore, there is conflict within the literature as to whether mirror neurons reflect imitation of the action or one step further, understanding (Marshall, 2014). Though the research jury is still out, the studies signify the modeling of behaviour witnessed, whether one is human or animal. Likewise, depending on one’s perspective, one may learn how to be still from a flower or a tree, how to love unconditionally from a pet animal, and to understand patience from an elder. All these entities are modeling what an individual may like to see in himself. Once open to such ideas human beings may begin to then model this transformation.

Animals have been saviors for most human beings; they assist in our everyday contentment. Animals assisting in therapy offer support to diverse populations such as older adults, those struggling with cognitive disabilities and the chronically ill (Willis, 1997; Stanley-Hermanns & Miller, 2002). As mentioned above, oxytocin is released when touched, massaged, or more generally, when having a positive social contact (Carter et al., 2007). Upon release the autonomic nervous system relaxes; further reducing blood pressure and heart rate (Carter et al., 2007; Campbell, 2010; Beetz et al., 2012; Wood et al., 2007; Walsh, 2009). As noted above the interaction positively effects cardiovascular function and cholesterol levels (Wood et al., 2007). Accordingly, it has been noted, that children struggling with autism (Beetz et al., 2012) or attention deficit hyperactivity disorder, when massaged, exhibit “fewer sleep problems” and are

less distracted in classroom settings (Campbell, 2010, pp. 369). Since oxytocin has a positive effect on the autonomic nervous system it may also decrease feelings of anxiousness and fear (Carter et al., 2007). Temple Grandin, a professor and author, has made it her mission to understand autism, while relating autism to certain functions that animals possess; Grandin herself has autism.

“Some people prefer the company of pets to people. Children and adults with neurological conditions such as autism are often highly attuned to animals. One remarkable person, Temple Grandin, channeled her hyperfocus and sensory differences into an extraordinary ability to relate to animals, take in the world as they do, and recognize their cognitive and emotional abilities (Grandin & Johnson, 2005). Her sensitivity to animal suffering and well-being led her to design more humane treatment of livestock and to a career advocating for animal welfare”

(Walsh, 2009, pp.471)

In the excerpt above, Walsh (2009) notes the similarities and differences between people with autism and animals. To extol Grandin’s involvement in the field is crucial as it enhances the validity of animals being able to assist in the health of humans.

In addition, Marcus (2013) noted the changes in neurochemical levels in humans when introduced to animals in therapy. For instance, animal assisted therapy decreased levels of epinephrine and norepinephrine, while increasing endorphin levels (Marcus, 2013). An animal companion aids in enhancing one’s immune system and decreasing exhaustion (Marcus, 2013). As mentioned in quite some detail oxytocin is released aiding in analgesic tendencies, therefore reducing pain (Palley et al., 2010; Marcus, 2013; Stanley-Hermanns & Miller, 2002). Marcus (2013) found 10-20 minute visits from an animal companion lessens pain for those in acute and

chronic pain (Odenaal & Meintjes, 2003). Moreover, positive connections with humans reduce cortisol emission and heart rate in therapy dogs (Odendaal & Meintjes, 2003; Glenk et al., 2013; Stanley-Hermanns & Millers, 2002). This confirms the notion of interconnectedness to all entities and further corroborates that human beings must contribute to the health of the planet in order to protect their own well-being.

2.2.5 Social Benefits

Animals as pets can be a source of companionship. Animals in animal assisted therapy aid in learning qualities such as unconditional regard and love. Animals can teach one how to present through modeling the behaviour. Similar to the bonds built with friends or family one can easily acquire such a relationship with an animal. Once the bond between animal and human is secure the animal requests that she or he be taken out regularly for exercise. In fact, interaction or playing with an animal may be seen as socializing (Beetz et al., 2012) as both animals and humans are social beings. Further, it does not only benefit the animal but the human being, too. What is more, animals assist in increasing one's social interaction with others while engaging in exercise, thus positively affecting one's mental health (Vining, 2003). Wood et al. (2007) reports green spaces are used as places where large groups are able to meet up; pet owners were noted to help other owners and "took part in community or social activities involving their pets" (pp. 49). Further, Wood et al. (2007) find animals not only influenced the owner positively in terms of well-being but also non-pet owners in the neighborhood and the community at large.

The Social Support hypothesis suggests an absence of social support is an indicator of physical and psychological difficulties (O'Haire, 2010). However, the presence of an animal decreases loneliness (Willis, 1997) and irritable behaviour in human beings (Brodie & Biley,

1999). Animal assisted therapy is capable of demonstrating how therapeutic having a companion pet can be.

“For the first time in known history, human beings are spending little to no time in physical contact with plants, and the living environment.”

O’Haire, 2010, pp. 231

Therefore, and as noted previously, animals drive human beings to nature, as both require physical exercise (Wood et al, 2007). Moreover, being out in public and in natural settings can facilitate dialogue and communication with others in the environment, therefore creating new bonds (O’Haire, 2010; Knight & Herzog, 2009). To corroborate such benefits, Brodie and Biley (1999) found overall life satisfaction and social competence demonstrated in 40 adult home populations that introduced weekly visitation by puppies.

2.2.6 Limitations

Again, like any other therapeutic approach there are limitations to be considered. Firstly, the majority of the research conducted is not empirically defined and thus maintaining the gap between evidenced based research (Kemp et al., 2014; Vitztum, 2012; Wilson & Barker, 2003). One cannot be assured of the psychological and physiological benefits that are present as alternative studies have indicated the research is weak and poorly controlled (Chur-Hansen et al., 2010; Peacock et al., 2012; Nepps et al., 2014; Wilson & Barker, 2003; Herzog, 2011). This does not allow for sufficient results to be produced. The studies have been known to produce generalized results with small sample sizes which essentially do not allow for definite conclusions (Wilson & Barker, 2003). Besides, Vitztum (2012) states the research must be based on “fact rather than feeling” (pp. 35). Wilson & Barker (2003) speak to the challenges of researching the human and animal bond and, they too, find that anecdotal research is

unsatisfactory which means the therapy cannot be read effectively (Beetz et al., 2012). Animal assisted therapy may be in its early stages though it is gaining empirically based evidence to demonstrate its efficacy. Further funding is required for such research and further collaboration from other disciplines, too, as it will aid in sufficiently solidifying the advantages noted for animal assisted therapy (O'Haire, 2010).

Additionally, Zilcha-Mano et al (2011) put forward hesitations regarding a pet or animal assisting in therapy adequately filling the part of an attachment figure. The attachment formed with the animal may pose as being harmful as certain attachment styles may be projected onto the animal. As mentioned above, individuals may have an unhealthy attachment to their companion animal therefore posing issues related to grief and loss (Walsh, 2009). Furthermore, there are no sufficient techniques in place to measure companion-animal attachment (Chur-Hansen et al., 2010). It is imperative to be cognizant about the animal assisting in therapy within prisons or care homes, as the animal may be provided with food or objects that may be dangerous. Phillips Parshall (2003) found animals that assisted in therapy were introduced to food in the care facilities; and in one case a dog passed away due to congestive heart failure after being overfed. In order for a study to demonstrate efficacy in its findings appropriate tools must be utilized. Levinson (1984), too, believes the human/companion-animal requires further research.

Nonetheless there is conflicting data with respect to the positive effects of companion animals (Chur-Hansen, Stern, & Winefield, 2010). Peacock, Chur-Hansen and Winefield (2012) find there to be little connection to well-being with respect to animal-human interaction. Chur-Hansen et al. (2010) found older adults with companion pets indicated higher body mass index and increased diastolic blood pressure. Further, Peacock and colleagues (2012) found

participants to experience enhanced levels of distress, depressive states, and reports of caring for an animal creating feelings of loneliness. This may be due to the level of responsibility in caring for another being. Individuals who have a companion pet in their home must be financially able to support the animal, while physically and emotionally meeting their needs (Walsh, 2009). Moreover, there is differing data with respect to loneliness; Herzog (2011) found studies suggesting individuals who were “seeking a companion animal” were tested before and after they attained the animal and findings state they felt just as alone as they did prior to attaining the animal (pp. 237). Further, Herzog (2011) examined research which indicated no significant changes in blood pressure of non-pet owners and those who own pets.

Animal assisted therapy or simply having a companion animal in the home may not be for everyone (Walsh, 2009). Moreover, findings demonstrate that a companion pet can prevent owners from building adequate social support networks (Peacock et al., 2012; Chur-Hansen et al., 2010). The animal may require more attention and therefore may not allow for connections to develop. On the other hand, individuals can become too dependent on their companion pet and as a result instigate irrational grief when losing the pet (Chur-Hansen et al., 2010; Peacock et al., 2012). Thus it is imperative for professionals to comprehend the attachments that may be formed when suggesting a companion pet. This may be addressed in therapy before the animal assisting enters, and also brought into sessions as the relationship between the patient and animal progresses. This research demonstrates the issues that are overlooked; therefore suggesting a need for training professionals on determining unhealthy relationships to one’s pet.

Finally, animal assisted therapy requires safe environments for both client and animal. The animal must be ethically trained and the therapeutic process must prove reliable upon testing. This is imperative as not all organizations that offer animals trained in assisting in

therapy advocate or hold strict ethical standards. Also, therapists may not be aware of the animal's stress reaction which, too, is imperative to be mindful of; this is so as the appropriate measures must be taken to then stabilize the animal's state (Stanley-Hermanns & Miller, 2002).

The ethical considerations will be outlined in detail below.

2.2.7 Summary

You see, animal assisted therapy is just as beneficial for the human as it is for the animal. The literature reviewed for animal assisted therapy attests the advances in one's health, psychologically, physiologically, and socially (Ford, 2013). Studies have demonstrated that the ability of animals to aid in building rapport and decreasing cortisol levels, is a source of acceptance and empathy, and cognitive enhancements (Ford, 2013; Nepps et al., 2014). However it is imperative that we honor and respect the animal's rights and freedoms, as well. As a therapist utilizing animal assisted therapy, it is crucial that the needs of both the client and the animal are met. Further research surrounding ethics is required and must be standardized (Phillips Parshall, 2003). Therefore animals or pets pursued for therapy purposes must come from an accredited agency (Phillips Parshall, 2003). Most importantly client, therapist and animal must abide by rules and regulations of humane handling.

The following passage is presented in order to demonstrate the healing properties of a companion animal, acting alone:

“I cannot forget the silent commiseration I received from my Great Dane during periods of depression, and the shared exuberance during periods of elation. I shall remain always grateful for the companionship and protection she gave me during the years when I was working on my doctorate at Columbia and was anxious and sick living in a jungle of a neighborhood, my only release the nightly walks we took together. It was through her

that I became part of the strange subculture of “dog people” in New York’s parks; the only strangers in New York who talk to one another are people with dogs or children. It was through her that I met some of the city’s lost souls, who were attracted by her great size and great gentleness and who stayed to talk to me. And it was through her that I became aware of the mystical bond that can unite men and beast and came to know intuitively what it has taken me years to put into words”.

(Levinson, 1984, pp.139)

In the excerpt above, the healing properties of animals- psychologically, physiologically and socially are apparent. The individual describes relief of depressive symptoms and reduction of cortisol. Further, as mentioned above, animals lead one to nature. The act of changing environments and taking one’s companion pet out for the physical activity she or he requires, will, as expected, take the two into a natural environment. When in a natural setting, and as indicated in the passage, one tends to meet those with similar tastes, which may then lead to creation of a community.

2.2.8 Ethics

Ethical considerations are imperative as animals and humans deserve optimal treatment. All entities are deserving of freedom, so if an animal is subjected to therapy one must consider what the rest of that animal’s life will look like. There are codes of ethics proposed with respect to animal assisted therapy. One code stipulates:

1. The practitioner’s primary concern must be the animal’s welfare;
2. The animal must not be forced to perform or work if he or she is hesitant or unwilling;
3. Animals are to be provided with sufficient break periods and furthermore, protected from clients who pose a risk of transmitting disease.

(Zamir, 2006)

To begin, let us consider the harm this modality may execute on the animal assisting in therapy. There is a difference in having an animal as a companion pet and an animal trained for assisting in therapy. The companion pet possesses much greater freedom to do as he or she pleases. In most cases, an animal assisting in therapy has certain freedoms taken away as he or she is working as a co-therapist. In other words, animals that assist in therapy live differently from those animals that do not. Therefore it is of high importance that the freedoms and rights of the animal are persistently abided by.

Exploitation is when one is defined as benefiting from an entity while inflicting harm to that entity (Zamir, 2006). The issues addressed above in the code of ethics constitutes harm. To avoid exploitation, perhaps animals should not be trained to assist in therapy but to be well trained to be around others. It is of the utmost importance that therapists are aware of the animal's well-being. For instance, not all animals are open to human contact. Horses can be difficult to domesticate. There have been cases where training a horse to assist in therapy required "breaking" the horses spirit (Zamir, 2006). This means that there may be inhumane conditioning strategies taking place for the horse to accept the presence of humans. Service dogs, also, are put through intense and depriving environments and this cannot go unnoticed (Zamir, 2006). One may conclude that the intense environments in which animals may be trained may bring about concerns in therapy with clients.

The issues addressed are infractions of an animal's basic rights. Above all, the human animal companionship should not only benefit the human but the animal, also. Since dogs and cats have been domesticated there are increasing numbers that require homes and medical attention. Medical procedures are costly and thus a human presence in an animal's life is often

more beneficial for the animal. However, having a companion animal in one's life comes with responsibilities that must not be neglected. Further, as the research outlines, a human prolongs life expectancy with the presence of a pet and the same is true for the animal- the animal, too, lives longer. Individuals may be uninformed about the ethical considerations that are made in order to have animals in the therapy environment and in the home. Therefore the therapist may take the opportunity in therapy to inform his or her clients.

Nonetheless, there are animal assisted therapy programs that have connected abandoned animals from shelters into the homes of older adults. Animals around the world are requiring support and shelter just as humans require their support to achieve their own optimal well-being. However, there are animals that do not benefit from human contact at all- monkeys, for instance. The capuchin monkey is a wild animal that is captured, secluded, "trained using electric shocks, had teeth extracted – all of these prior to placing the monkey as a nurse of a handicapped person" (Zamir, 2006, pp. 184). Animals such as dolphins, monkeys, reptiles, and birds receive very little in return when domesticated. In this case, one must recognize that one party is being deprived of its natural environment while not at all benefiting from the environment it is in; therefore it must be released back into the wild in an appropriate manner. Hence, it is important to understand the animal one is working with. For instance, Glenk, Kothgassner, Stetina, Palme, Kepplinger, & Baran, (2013) found that animals who assist with therapy demonstrate higher cortisol levels when patients are in group settings. Studies demonstrate dogs tend to demonstrate high cortisol levels on visitation days versus non-visitation days (Stanley-Hermanns & Miller, 2002). Thus, it is essential to consider frequency of visitations and also whether it would be best for animals to work with smaller groups or one to one with individuals. On the other hand, clients or patients may have concerns regarding safety, the spreading of diseases or the temperament of the animal,

for instance. It is imperative to inform and educate the public and one's clients that there is very little risk of contracting a disease from dogs involved in animal assisted therapy (Willis, 1997). And, certainly, the temperament of the animal, with the appropriate training, should not be an issue; regardless the therapist must be attuned to the animal assisting in therapy.

Additionally, animals that are not solitary animals but social, and spend much of their time in herds, packs, or groups should not be isolated (Zamir, 2006). This, too, must be taken into consideration as this may have an impact on the animal's personality and performance, depending on the therapy animal of choice. Further, injury is another consideration that is not to be taken lightly. It is important to instruct clients how to be with the particular animal that is assisting in therapy. Some animals require being gentle and some may tolerate rough play. Phillips Parshall (2003) found men to be rougher with the animal assisting in therapy where as women were more likely to hold the animal close while stroking it. That being said, the therapist must be highly attuned to the animal's reactions and behaviours to perceive his or her comfort and or discomfort. Each animal is different in its upbringing and training therefore the reactions produced will be unique, also.

Moreover, not all animals should become companion pets. Animals such as lions, tigers, monkeys, and elephants, for example, must remain in the wild. What is important to keep in mind is not the domestication of animals but the longevity of animals and nature. There is no need to domestic an animal in order to care for its well-being. Though we have more affinity to animals that are in our homes and thus tend to their needs, we must extend ourselves to all animals and natural environments. This viewpoint may be regarded by understanding biocentrism. Biocentrism is an ethical perspective that maintains all that is alive merits moral consideration alike (Bekoff, 2013). Through education, awareness arises with respect to

protecting nature from harm presently inflicted on our natural environments (Bekoff, 2013). In fact, education on empathy has positively influenced interactions with the environment and animals (Bekoff, 2013). As Fromm and Bateson indicated- everything is relating and connected at all times. In order for human beings to be supported by ecotherapy and animal assisted therapy there must be a drive to also aid in the health and safety of the planet.

Chapter 3. Discussion

There felt a need to step away from conventional prescriptions to aid in the mental health of human beings. The literature reviewed confirmed these alternative modalities present parallel effects on one's dispositional and situational aspects. Not to mention, one begins to, hopefully, recognize the importance of natural environments and animals and their significance in our lives. Technology has been able to manufacture cures for human ailments, communicate with loved ones around the world, and travel. However it is importance to be cognizant of its limitations. Historically humans were immersed in natural environments and in contact with many animals. This separateness that has been created due to industrialization and urbanization has been leaving its mark by effecting one's mental health and overall well-being, as health and well-being are declining in today's societies (Vitztum, 2012).

In order for human beings to acquire mental and physical well-being there must be a conscious shift in awareness. Instead of blindly following suit and conventional modalities to healing one must learn to explore less invasive techniques. The beauty of these two modalities is that individuals, when reunited with nature and animals, will optimistically, become cognizant of the health of such entities. Not to mention, the immense benefits experienced such as, improvements in cognitive impairments in depressed clients. What is more, animals in therapy provide Rogerian type characteristics such as non-judgment and unconditional positive regard,

which aids in the therapeutic alliance and the modeling of these qualities (Kemp et al., 2014; Vining, 2003). Animal assisted therapy aids many diverse conditions, from psychiatric, developmental, and medical related diseases (Marcus, 2013; Willis, 1997; Walsh, 2009); thus, assisting in many different facilities such as prisons, nursing homes, and public service programs (Willis, 1997; Glenk et al., 2013; Walsh, 2009). In fact, Willis (1997) considers animals to be a re-humanizing antidote to human beings.

The biophilia hypothesis states, that human beings are encoded, biologically, to seek connection with nature or natural settings. In turn, these natural settings, the green spaces, aid in development and increase emotional and cognitive function, while enhancing social and spiritual well-being. Nature's benefits and the advantageous effects of animals have proven to positively affect mental health. Connectedness to both natural environments and animals lead to a greater sense of well-being. As predicted there are many advantages in implementing ecotherapy and animal assisted therapy. These two modalities are more than just therapies; they are a way of life that human beings have been a part of for centuries. Since the industrialization, there has been a noticeable disconnect from nature and animals. In order to maintain optimal health in all areas, psychologically, physiologically, and socially, it is recommended that we, human beings, reconnect with all that surrounds us.

An important consideration to be made when implementing animal assisted therapy is around ethics. Animals, domestic and wild, have suffered much abuse by human beings (Walsh, 2009). Activists are working hard to ensure the safety and well-being of all animals. Therefore, therapists must be aware of the animal's capabilities and recognize boundaries, as animals, too experience stress when surrounded by too many clients or patients. Animals assisting in therapy are typically trained and come from well-known organizations. Thus it is imperative that the

organization's ethical standards are understood and met. As for ecotherapy confidentiality may prove to be a concern for many people and therefore the implementation may be different during session. However, that does not necessarily imply that clients should not go on their own time.

With respect to future studies, there is growing inquisitiveness regarding the caring of some animals and pieces of land, such as one's property and pets, and the complete disregard for the animal meat consumed and the deforestations taking place around the world. It is interesting to note that many human beings will support and house some animals and not others.

Westerners, for instance, seem to care much about their dogs and cats while finding it acceptable to eat other animals such as chickens and cows. Many may not be aware of the horrors of the meat industry and that, too, must be addressed further. In fact, those that do justify eating some animals suggest the animal's lack of conscious awareness (Knight & Herzog, 2009). Yet, I have noted both animals and humans experience much of the same dispositions and situations. The following excerpt speaks to the idea of biocentrism the lack of awareness witnessed by individuals all over the world:

“The issue of emotion is fundamental, but our focus should extend beyond positive emotions such as caring. Negative emotions, such as feelings of guilt and cognitive dissonance because we shelter and adore some animals but eat and exploit others, disgust toward some species, and despair because so many creatures are in trouble in the wild are all worthy of research attention.”

(Vining, 2003, pp. 96)

Further, each year, as noted by Knight and Herzog (2009), four million unwanted animals are euthanized. Perhaps future research should also consider how to combat such issues (i.e. placing unwanted animals in shelters or homes; laws regarding breeding). Also, in terms of future

research, additional research with respect to the types of natural environments and their respective healing properties is essential (Ulrich et al., 1991). For instance, manmade green spaces versus natural green spaces- also, which type of green space activity, for instance gardening and hiking, produce superior results. Moreover, further research is required on ways to support and encourage the connection to animals and the environment. Evidently, therapy is a great way to promote the healing properties of all that exists.

I have always been fond of nature - intrigued, agape - by its beauty. I tend to remain in a constant state of curiosity about nature, animals, and humans, the workings and connectedness of all. The research process of this piece has been stimulating and enlightening. Just as Bateson suggests, in order to understand something one must understand all that that something is connected to. I enjoy being in nature and around animals; I, and now you, are cognizant of and privy to the psychological, physiological, and social advantages of having them in our lives. However, what is of great importance to me is the health of our planet, our environment and all species that inhabit it. If we human beings continue to destroy the planet at the rate that we are, such benefits to our health will not exist.

As therapists we can do our part in connecting the client with nature and animals through the therapies addressed. This in turn may propel positive changes to the environment that we share with many other species. Perhaps the pattern that connects surpasses our awareness as its understanding is far reaching (Scott et al., 2014). This is why education is imperative. Further education on empathy and the environment may, too, motivate clients to become aware of the ethics behind humanity's industrialization and urbanization. Not only can a therapist provide a prescription that is cost-effective, aids mental and physical well-being, but also supports the reconnection to nature and other living species (Scott et al., 2014). As the feelings of

connectedness increase one can expect changes in other activities (i.e. paper and food waste, plant trees, and advocate on the rights of nature and animals); thus building and maintaining the planet's health and in turn our own (Scott et. al., 2014).

To put it briefly, in order for the environment and other species to exist, human beings must not overlook the health of nature; we must aid in its survival for it to aid ours.

Unfortunately capitalism has been at work, politically and economically, for the past century.

Fortunately, with advocates from all over the world, and individuals from different disciplines, some countries and states have made positive changes. In 2008, Ecuador passed a law that identified nature as a living system with its own set of rights; Bolivia followed suit in 2010 and continued to add to their laws in 2012 (Kanner, 2014); Pittsburgh, Pennsylvania, too, banned fracking, recognizing nature's rights (Kanner, 2014). The awakening of human consciousness as seen in these recent passing of laws provides hope. Hope for our future. Thus, for future generations to enjoy natural environments and different species, one must take a stand and become an advocate for Mother Earth.

“Surely we would be better advised to invest the money on the workings of the mind. We should pay more attention to the quality of our dependence on other organisms. The brain is prone to weave the mind from the evidences of life, not merely the minimal contact required to exist, but a luxuriance and excess spilling into virtually everything we do. People can grow up with the outward appearance of normality in an environment largely stripped of plants and animals, in the same way that passable looking monkeys can be raised in laboratory cages and cattle fattened in feeding bins... Yet something vitally important would be missing, not merely the knowledge and pleasure that can be imagined and might have been, but a wide array of experiences that the human brain is peculiarly

equipped to receive. Of that much I feel certain, and I will offer it in the form of a practical recommendation: on Earth no less than in space, lawn grass, potted plants, caged parakeets, puppies, and rubber snakes are not enough.”

(Wilson, 1984, pp. 118)

3.1. Conclusion

Although ecotherapy and animal assisted therapy require a great deal of empirical support the literature above has sufficiently demonstrated the many advantages that both modalities bring forth. Modalities that can be accessed without entering a counselling office. They need not be considered therapies; natural environments and animals are present in our everyday lives. We are simply working with all entities; all that we share the same land with, the same air, and connection with. However, since there is a lack of knowledge with respect to such modalities it is our duty as therapists and professionals to learn about and educate on alternative modes of healing. As mentioned above, through education one may be taught empathy, the importance of community, and how to live in harmony with all that exists. In doing so, I hope there is an awareness to worldly issues that will ignite a passionate desire to do what is best for all beings and Mother Earth.

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