

Running head: MENDING THE HUMAN-NATURE RELATIONSHIP THROUGH
THERAPY

Mending the Human-Nature Relationship Through Therapy

By

Ana Claudia Naoufal

A thesis submitted in partial fulfillment of the Requirements for the degree of

Masters of Counselling (MC)

City University of Seattle

Vancouver, BC, Canada Site

December 2016

APPROVED BY

Steve Conway, PsyD, R.C.C, Thesis Supervisor, Director of Canadian Counselling Programs

Collin, J., Sanders, PhD., R.C.C, Faculty Reader, Director of Graduate Programs in Counselling

Division of Arts and Science

Abstract

In the last few decades, there has been an increase in literature and research on the importance of nature in psychotherapy due to the realization of its crucial role in human development and well-being. This thesis discusses the relevance of using nature as part of therapy and reveals the positive impact of incorporating nature into counselling practices. It will also look at research on the effects that the growing disconnection from nature is having in children, a concept recently labeled as Nature-Deficit Disorder (NDD). Throughout this thesis we will explore the negative impact that the growing disconnection between human beings and nature has on both. In the chapters that follow nature-focused healing perspectives and practices will be presented as well as taking a closer look into NDD. A discussion on the literature emphasizes the importance of counsellors and psychotherapists maintaining openness in developing strategies to incorporate nature into their work with clients inspired by the philosophy of ecopsychology. This results in eco-friendly therapy models such as ecotherapy and nature therapy. This thesis emphasizes the importance of incorporating nature into counseling and psychotherapy, providing examples of interventions that are inspired by the intuitive knowledge that nature heals while backing it up with the research aimed at proving this.

Table of Contents

Abstract	2
-----------------------	----------

Table of Contents	3
--------------------------------	----------

Chapter One: Introduction

Introducton	5
Problem Statement.....	9
Nature of Study.....	9
Definition of Key Terms.....	9
Assumptions, Limitations, and Scope.....	12
Significance.....	12
Transition Statement.....	12

Chapter Two: Ecopsychology

Introduction to Ecopsychology.....	13
“Traditional” Cultures, Western Culture, and Definitions of Madness.....	14
The Current State of Humanity.....	15
The Human- Nature Connection.....	17
Discussion/Conclusion.....	19

Chapter Three: Ecotherapy in Theory and in Practice

Concepts of Ecotherapy.....	21
-----------------------------	----

What is Ecotherapy?	23
The Human Psyche and it's Relationship with Nature.....	25
Ecotherapy in Practice.....	28
Conclusion.....	29
 Chapter Four: Nature-Defecit Disorder	
Introduction.....	31
What is Nature-Deficit Disorder?	31
Benefits of a Nature-Filled Childhood.....	33
Modern Children: The Third Frontier.....	36
Conclusion: Alternatives in Modern Education.....	38
 Chapter Five: Concluding Chapter	
Summary of Major Findings.....	41
Implications for the Counsellor and the Therapeutic Process.....	43
Limitations of Study.....	46
 References.....	 48

*Chapter One***Introduction**

Ever since I was a little girl I had a hard time understanding the world around me --why humans treated each other and other living things the way they did, and why there was pain and suffering everywhere I looked. I also remember having this sense of profound understanding that this was wrong, that something was deeply wrong with the current state of modern society and that the truth that once was understood by traditional aboriginal cultures had now been forgotten and in desperate need of being remembered. In Jensen's book, *A Language Older Than Words* (2004), I found not only that I was not alone in this "knowing" but also the inspiration for writing this thesis.

Jensen begins his book by sharing his difficult childhood at the hands of his abusive alcoholic father. In the years Jensen endured abuse in the hands of his father there were two elements crucial to this experience that would lead him to write this book. The first is that in his childhood loneliness and despair, he wholeheartedly believed that what kept him going was the relationship he had developed with the stars. He felt a sense of love, connection, and protection from them; a knowing that is expressed by him writing, "the stars saved my life. I did not die because they spoke to me" (Jensen, 2004, pg. 7). The second crucial element to his experience is the fact that his father would never, and has never, admitted or acknowledged the abuse. Jensen compares his father's need to deny his abuse as comparable to most people's need to deny the violence they inflict onto nature. In regards to the violence we inflict on nature Jensen says that:

"We don't stop these atrocities, because we don't talk about them. We don't talk about them because we don't think about them. We don't think about them,

because they're too horrific to comprehend. The Ordinary response to atrocities is to banish them from consciousness. Certain violations of the social compact are too terrible to utter aloud; this is the meaning of the word unspeakable" (pg. 10).

A Language Older than Words is a book about connection and about a time in which connection to nature was an unquestioned aspect of human life. As the title reads, there was a time in which a language existed, a language not composed of words, but older than words, a language of "bodies, of body on body, wind on snow, rain on trees, wave on stone. It is the language of dream, gesture, symbol, and memory. We have forgotten this language. We do not even remember it exists" (Jensen, 2004, pg. 2). This was a language spoken by every living thing, by the universe itself. It facilitated the understanding of balance amongst all living things, the importance of connection. A language that allows the hunting predator to communicate with his prey so that the prey that is ready to die is the one that is killed. Jensen describes the most beguiling moment in the hunt as the moment of encounter in which "the prey may remain absolutely still while staring at the eyes of the predator. What transpires in those moments of staring is an exchange of information between predator and prey that either triggers a chase or defuses the hunt right there. I call it the conversation of death" (pg. 33). This is the language that allowed Jensen (later in life) to make an agreement with the coyotes that kept killing and eating his chickens, an agreement that was based on a mutual understanding of balance and respect. Jensen offered the following agreement to the coyotes: "please don't eat the chickens. If you don't, I will give you the head, feet and guts whenever I kill one" (pg. 18). According to Jensen, as long as he has kept his side of the bargain so have the coyotes. We have come a very far way from the time in which this ancient language was part of the experience of being human. We have moved so far from it that we have no conscious memory of it ever existing. In forgetting we have become separate from nature and unable to understand it any longer. This forgetting has

facilitated us justifying our dominion and violence towards nature, we can more easily deny that nature suffers at our hands. We are living in a political and economic system that re-enforces the forgetting because its power and existence is dependant on it. However, that language lives within us, it is a part of our (human) nature and is pleading to be remembered for both humanities' well-being as well as for the purpose of giving nature a voice once again. Suppressing this aspect of humanity has allowed our denial about the violence we inflict onto nature but also that which we experience within our own human experience. The consequence of this rupture in our connection with nature is what this thesis is about.

One of the most visible consequences of our disconnection from nature and a capitalist economic system is addiction. In my opinion, the best book written on this subject Bruce Alexander's book: *The Globalization of Addiction: A Study in Poverty of the Spirit* (2008). Alexander is a professor of in the department of Psychology at Simon Fraser University (SFU). In this book he writes about the many effects disconnection and social displacement has on human populations. Alexander chooses to focus on addiction (in all its forms), as a form of disease that is rampant in modern society. Addiction is a consequence that is a direct result of the poverty of spirit most people live with in western society due to the experience of dislocation or disconnection from both nature and community. Alexander considers "the spread of addictive dynamics in a dislocated society a far more deadly issue than society recognises" (pg. 241). He continues on by saying that:

"Addiction exacerbates the madness of the modern world, at times producing misery, death, environmental destruction, financial instability, and further dislocation. Because it exacerbates dislocation, addiction is self-perpetuating. Thus, addiction contributes handsomely to

the lunacy that is currently drawing an already weakened civilisation towards self-destruction” (pg.242).

In the same way that Jensen compares his father’s unwavering need to deny his violent actions is like most people’s denial of their contribution to the violence inflicted on nature. Alexander poses the question of “what greater madness is there than to ignore cascading, irreversible damage to our planetary home?” (pg. 249). Alexander looks at free-market society as requiring the sacrifice of psychosocial integration for the benefits of wealth. In other words, in order for this economic system to succeed most people must sacrifice their well-being resulting in a poverty of spirit that “leaves each person, to a greater or lesser degree, desperate for something that will provide a sense of meaning and belonging” (pg. 250). At the same time, that the free market dislocates people, it proffers pseudo solutions for the misery of such dislocation. However, a counter and more sustainable solution to this problem can be found in the therapeutic models that incorporate nature into their practice.

In this paper I will examine research of theoretical literature that supports the belief that there are higher rates of psychological illnesses in nature deprived urban environments. Urbanization creates stress, poverty, unemployment, isolation, crime, disconnection, bad nutrition, noise, crowding and many other factors that contribute to a deterioration of the quality of life for human beings. I believe the rise in autism, anxiety, depression, low-self esteem, and even physical illnesses such as cancer are directly correlated to urbanization and lack of natural environments, a relationship recently reported in an examination of adverse environmental outcomes in Canada (Royal Commission of Environmental Pollution, 2007). Unfortunately generic ‘solutions’ for urban landscapes are ineffective in providing city dwellers a sense of access to green spaces and the benefits of such. (Roszack, 1997).

Much research demonstrates that access to green spaces increases mood, self-esteem, and healing, while decreasing anger, anxiety, depression, and a sense of disconnection (Royal Commission of Environmental Pollution, 2007). Modern therapies such as ecotherapy and ecopsychology, which honor and do therapeutic work focused on the need for human connection to nature, have been created to counteract the deficit of green spaces and other adverse effects of life in urban settings. Sadly, few health professionals consider ecotherapy on a par with other treatment options (Mind, 2007).

Problem Statement

In this paper I will explore the psychological and emotional consequences that western/industrialized urban societies have on people. I will then explore how new therapies that use nature as a focus are emerging as a response to this problem. I will cite research and community-based literature that demonstrates the human needs for connection with nature.

Nature of Study

The nature of my study is to demonstrate the importance nature plays in the livelihood and well being of humans, especially in modern, urbanized society. Mind, in his study on ecotherapy, stresses the idea that “inequality of access to green spaces should be addressed as a human rights, social justice, and discrimination issue and that all health, social care, and criminal justice facilities should provide access to green spaces” (Mind 2007).

Definition of Key Terms

Well-being: a positive and sustainable state that allows individuals, groups, or nations to thrive and flourish (Royal Society, 2005).

Ecopsychology: Ecopsychology is a science based philosophy that recognizes that the healing of ourselves and the healing of the world are interrelated (Roszak , 1992).

Ecotherapy: The term “ecotherapy” refers to healing and growth nurtured by healthy interaction with the earth (Howard Clinebell, 1996). It is an umbrella term covering specific techniques and practices of nature-engaging activities such as horticulture (working with plants), spending time in the wilderness (away from centres of high populations and artificial structures), exercise in green spaces, etc.

Ecocide: Ecocide comes from the Greek words "*oikos*" (house/home) and "*citium*" (slay/destroy), therefore *ecocide* refers to destruction of one's home (Jensens, 200).

Dislocation: The loss of psychological, social, and economic integration into family and culture; a sense of exclusion, isolation, and powerlessness (Mate, 2008).

Health: "A state of complete physical, mental, and social well-being and not merely the absence of disease or infirmity" (World Health Organization). For the purposes of this paper I will mostly on the mental and social aspects of human "health".

Environment: "The physical, chemical, and biological factors *external to a person*" (Stevens, 2010, pg. 265). Too often the environment is erroneously seen of secondary importance when discussing well-being when rather it is of primary importance.

Natural: Anything not under control of humans but rather a self-organizing system. Having qualities that emerge from their inherent biological and psychical properties (Stevens, 2010)

Embodiment: "Our behaviours, motivations, thoughts, and feelings are both generated and constrained by our own physical nature (Stevens, 2010, pg. 266)". Our body reacting to the environment around us (through illness, anxiety, healing, joy) is a form of embodiments.

Eco-Crisis: A loss of species, natural habitats, global warming, deforestation, soil erosion, pollution, toxicity, depletion of fossil fuels, etc. The severity of these problems is increasing daily and therefore rendering life on earth at risk of extinction.

Nature-deficit Disorder: A need for "unstructured activity in natural environments" (Educational Leadership, 2009). This "disorder" is manifesting mostly in children as it is they who, until the last couple of decades", have used nature as their playground and a contributor to their healthy development. This term does not refer to a medical diagnosis (yet) but rather a description of the growing gap between humans and nature at the risk of health and well-being.

Disconnectedness: I will use Nesse's (2004) definition of this term as he uses it in the context of modern/western cultures. He uses this term to refer to reality that although we (humans) now live more comfortably than ever before, there are also more unhappy people than ever before. People for whom life feels frantic and/or meaningless, a truth derived from our sense of never-ending but yet unfulfilled material needs that has replaced our connect to each other and nature.

Dis-ease: The term: "dis-ease" is used by individuals and healing communities who are aligned with wellness, choosing not to empower health issues by focusing on a particular ailment. The intent is to place emphasis on the natural state of "ease" being imbalanced or disrupted (Desy, 2016).

Humanity: The human race as a collective.

Unwellness: impairment of normal physiological function affecting part or all of an organism. illness, sickness, malady. condition

Assumptions, Limitations, and Scope

The facts assumed in this paper are that all human beings benefit from a state of well-being. Is it possible that many people feel that they are whole and healthy in the absence of any connection to nature? There are those who believe in what the modern economic system calls "progress" and will debate the importance of nature in relation to achieving such progress. Unfortunately, although there is there is enough scientific research on the psychological consequences of urban life and our ever- growing separation from nature, we yet have to catch up to that knowledge in the way mainstream society operates in relation to nature.

Significance

The significance of this study is to show how individuals are affected by their relationship (or lack there of) with nature but. In a time where nature is being destroyed every second of the day, it is also significant to look at how this will devastate entire societies and ecosystems to which humans depend on for survival, not just physically but psychologically as well. It is also crucial to mention and recognize the potential of having to tap into ancient customs and uses of nature as a source of healing and well-being.

Transition Statement

The literature segment will be divided into several categories. The first will focus on ecopsychology research to demonstrates how nature, or the lack there of, has affected people's well being, specially regarding their mental health. We will then take a look at a couple of examples of therapeutic practices that have emerged from ecopsychology's theories and the practices of ecotherapy. In chapter four I will focus on children and their relationship to nature, how it has changed over the last couple decades, and what it means for a child to experience Nature-Deficit Disorder.

Chapter Two: Ecopsychology

Introduction to Ecopsychology

There are number of ways in which proponents of ecopsychology define this field of study. Regardless of the variations, they all convey the same message: "ecopsychology aims to treat mental illness by bridging the human-nature rift" (Rowland, 2016, p. 43). Ecopsychology proposes that the gulf between man and nature not only drives ecological decline but also contributes to modern afflictions such as depression, anxiety, obesity, and a host of other physical, mental, and emotional illnesses (2016, p. 43). Some proponents of ecopsychology such as Thomas Doherty (2011) view it as a social movement and a worldview more than an as a discrete academic discipline. Some authors have categorized ecopsychology as a philosophy, a science, and a political view, but regardless of the field of study it fits or does not fit into, it is crucial that we [humans] delve more deeply into what it offers -- a solution for both human and non-human lives alike if either is bound to survive (let alone thrive) on earth for much longer. Unlike humanistic psychology, which only extends the concept of dignity to human beings, ecopsychology claims relevance to all living things, positing that being human (human being) exists within the context of other beings. This notion adds an important perspective to the understanding of mental health and illness and the importance of human connectivity to other living things.

Ecopsychology evolved during the 20th century and is best characterized in the work of Theodore Roszak (1995). In his seminal book *Restoring the Earth, Healing the Mind*, he offers the perspective that the world's ecological crisis is directly linked with humanity's growing state

of psychopathology. In an interview, Roszak (1989) describes how traditional societies, such as the many aboriginal cultures in Canada, who live in closer connection to the earth, describe and distinguish sanity and madness in terms of an entity's relationship to its natural habitat. Madness, according to Roszak and others in the field (1989) is understood as an imbalance between individuals and their natural environment, which inevitably results in ecological consequences. In other words, the further out of balance the human relationship with nature grows, the greater the madness found amongst human beings; this increased madness then has a greater likelihood of causing devastating ecological destruction.

"Traditional" Culture, Western Culture and Definitions of Madness

According to Roszak (1989), traditional cultures have much to offer to our understanding of the relationship between nature and human sanity and madness. A question arising from ecopsychology would be as follows: what happens when the social system has gone mad? This question goes beyond the individual being to consider the larger context of health and mental health as influenced or mitigated by the environment. Freud (1920) attempted to define madness, in particular collective madness or communal neurosis, but was not able to explain it. Ecopsychology attempts to explain this phenomenon through looking at our relationship to nature. Roszak believes there is madness involved in our urban/industrial (Western) society due to its lack of with the natural environment. It is crucial for human ecology that we re-capture the sense of being imbedded in and reciprocal with nature that is found in traditional forms of healing. Ecopsychology attempts to define a common ground between ecologist and psychologist. Both of these professions work with healing. Ecologists attempt to heal and protect the natural environment and psychologists do the same with people. The key principle to

understand, however, is that neither can heal if the other does not. The well-being of one is directly correlated to the well-being of the other. Therefore it is safe to say that focusing on the well-being of the environment should be synergistic with focusing on the well-being of humanity.

Roszack (1995) points out two major themes found in ecopsychology: 1) ecopsychology aims to find sustainable ways of living in the world; and 2) ecopsychology attempts to link mental health/sanity to the function or dysfunction of the environment. Basically what ecopsychology seeks to communicate to is that there is a direct correlation between human wellness and environmental sustainability and vice-versa.

Ralph Metzner (2008) defines ecopsychology as "the expansion and revisiting of psychology to take the ecological context of human life into account" (pg. 17). It is therefore important to have an understanding of ourselves within our environment, regardless of whether that environment is stable or in a state of crisis. In restoring and promoting mental health, it is critical to build upon the relationship between ecological restoration, community restoration, and the restoration of the human soul.

The Current State of Humanity

We have lost touch with our essential humanity. We are living in a time that calls for collective psychological processes to heal us from the increasing loss of our essential humanity (Glendinning, 2010). Nothing is more preoccupying or energy draining than that which we

repress (Marcy, 1998) and currently, we as humans are collectively repressing the devastation and destruction that we are causing in our environment. Despite our repression, humans cannot deny that other forms of life depend on us, as we depend on them. Frans de Waal (1997) states that humans are living with *anthropodenial*, blindness to the human-like characteristics of other animals or the animal-like characteristics of ourselves. Pre-industrial societies understood that the balance between human and the needs of other living things, and the survival of all living things was crucial to humans' survival and well-being. We have forgotten what means to live as a part of the web of life and we currently live as if we never knew about the importance of our relationships to living things in our environment. Ecopsychology at its core hopes to ignite a movement in which people begin to realize that changing our relationship to nature is the key to resolving mental health issues and promoting well-being. Therapists applying the concepts and principles of ecopsychology have begun to acknowledge that clients seeking help with their suffering could possibly relate this suffering to the parallel destruction and suffering of our planet (Davis, 2105).

Ecological decline causes grief-like symptoms in human beings. These symptoms are made worse by the constant reminders of our seemingly impending demise, a message we are bombarded with through modern media outlets. Gibney (2016) quotes the deep ecology scholar Joanna Marcy's description of the repression necessary to cope with this unconscious by saying; " the repression needed is a form of denial for those of us who feel a sense of powerlessness over the current state of the world and serves as an emotional mechanism of survival at its most basic level" (p. 13). Sadder still is the fact that we see greater numbers of individuals in modern society who do not even attempt to survive. Suicide, addiction, depression, and many other forms

of dis-ease are sweeping human populations, rendering many of us in a state of total dissociation and dislocation from what once was the experience of being alive (Alexander, 2008).

I am blessed with childhood memories in which swimming in a river, catching toads, and climbing trees were parts of everyday life, and I can only imagine what it felt like for previous civilizations to feel alive. I believe there is a soul sickness infecting the western world and an outcome of such seems to be a suffocating sense of meaninglessness. Therapeutic practices and theories have tried to address this phenomenon within their own version of what it is that will give human life meaning. People who seem to "have it all" as defined from a western perspective are paying the most money for therapy, dying of drug overdoses, and drowning in debt as they try to fill their inner void with the "solutions" modernity provides (Alexander, B. 2008). These so-called solutions allow the repression of reality to be successful for a short period of time, but once this effect has worn off the emptiness becomes deeper, wider, and more suffocating than before. In traditional societies there was no epidemic of un-wellness, and when there was, it was nature that served as the source of healing, reconnection, and sanity.

The Human-Nature Connection

Original Trauma, according to Robert Hay (2005), is the separation of nature from everyday human life. This concept acknowledges that humans were born to live in vital participation with the natural world. Domestication of nature does not make us feel "more in control as we continue to lie to ourselves; it actually makes us feel more lost and terrified" (p. 313) than ever before and it is unnatural to humans to live that way. Grundy (1997) and Morito (2002) explain the need to see nature as having intrinsic value independently and in relation to people; if this is considered true, we need to start articulating our morals and ethics with respect

to the earth more explicitly (as cited in Hay, 2005). The purpose of this thesis is to demonstrate that, as much as we humans try to deny our connection to nature on a daily basis through a plethora of avoidance mechanisms, there is no escaping the consequences of these choices and the ensuing disconnection. There is a growing percentage of people who are in touch with the importance and value of nature, not only in relation to humanity's physical survival as a species but also with respect to its collective and individual emotional well-being, one that progressively deteriorating.

Robert Hays (2005) beautifully describes this inescapable interconnectedness between humans and the natural world:

"Humans originally evolved in synchronicity with a world made of fireflies, fire ants, and snow clouds. The swirling pattern on the tips of our fingers had been shaped in consonance with the wind, and our cycles of creativity had come to mirror those of the moon" (p. 317).

As much as technology has become synonymous with humanity, and as much as we have come to rely on it as the primary source of solving any problem, when it comes to solving the environmental crisis we face today, technology has its limitations. Technology does not delve into the root causes of this crisis, nor into the values and ethics underlying the decisions that are made about the environment and the related social crisis facing humanity. Technology ultimately fails to engage the human spirit. The cultural cause of the present crisis MUST be addressed. In *Healing with Nature in Mind*, Roszak explains that the "the ecological crisis is also a crisis of human consciousness" (pg. 52). Much of modern culture is focused on helping us numb ourselves. We become apathetic and paralyzed in order to protect ourselves from being too overwhelmed. Technology plays a major part facilitating this escape from reality.

Gibney quotes Joanna Macy when saying that the loss of certainty that there will be a future is the pivotal psychological reality of our time (2016, p. 16). To wake up and take a real look at our human species and become aware that it is engaging in a genocide of the planet is alarming; most of us respond to this as though we were choosing to engage, when actually this reality is being imposed upon us by a system that has made us feel completely dependent on a lifestyle that can only be sustained through environmental destruction. Part of the reason we are in such denial about the individual choices that contribute to this current crisis is the species-biased language we do not even realize we use. This language has tremendous impact on the way we treat other living things and the environment. Speciesism is the belief that human beings are superior to other living things and therefore the exploitation of them is justifiable (Gibney, 2016). Human language has reflected this perception for so long that we do not have a recollection of a language older than words, a language which once allowed us to communicate with all living things.

As the predominant (Western) worldview grew into one that is materialistic, nihilistic, narcissistic, the incidence of mental health challenges has grown. Our inability to cope with existential shock keeps us in a constant state of denial about our situation, denial also made accessible by our growing insanity. Let me clarify that by insanity I am in no way describing individual people's mental health issues, I am referring to a collective unconscious that continues to allow a homicidal and suicidal way of life while pretending that it is not happening.

Discussion/Conclusions

Without some form of ecotherapy to heal and recreate ourselves we remain stuck in a state of denial. Instead of focusing on healing ourselves and the planet we focus on the things

that allow us to escape ourselves and our current reality, things that in the western world, are readily available, things such as television, food, alcohol, material goods, and sex. In fact, the foundation of western culture is producing and using the plethora of "things" and substances that facilitate the continuation of a system in which we are sleepwalking and being passive (Alexander 2008). The irony of our time is that we live with unlimited access to information and awareness, but we feel more hopeless and helpless than ever. Awareness without action is a breeding ground for distress, mental illness, and addiction. Through bonding with earth and other living things while exploring ourselves through a therapeutic process we can feel more equipped to take direct action in healing the earth we can also heal ourselves (and vice versa). This is the premise (promise) of ecopsychology.

Shallow ecology has not worked at the level needed to address our ecological crisis. We have to reconsider this approach and begin to substitute it with deep ecology. This is a more radical approach that includes the idea of reducing the human population as an environmental solution. In this thesis, I will not go as far as advocating for that, although I think it is a more appropriate way to measure the urgency of our crisis. The following chapter will explore the therapeutic practice such of ecotherapy, which has emerged from ecopsychology in order to attempt to begin putting theory into therapeutic practice.

*Chapter Three: Ecotherapy In Theory and In Practice***Concepts of Ecotherapy**

Theodore Roszack (1996) believed that at one time all psychologies were ecopsychologies. By stating this belief Roszack attempted to take us back to a time where human communities healed their people through the use of nature. Those who sought to heal the soul took it for granted that their access to the natural world would promote healing, as it was an unquestionable part of everyday life. There was a time in which people understood that human nature was densely embedded within a world that is shared with other living things, the existence of one was not independent from that of everything else. Today's version of 'soul' healing practices, or what we now call psychology, place human health only within urban settings and treat only the individual and or/ their relationship with fellow human beings as found in therapies such as those that focus on family systems (Westlund, 2015). Westlund quotes Harold Searles (1960) in his description of psychoanalysis, wherein he describes psychoanalysis as having limitations due to its focus only on inter- and intra- personal relationships with oneself and other people: "the relationship with nature was considered to be irrelevant as though human life existed in a vacuum and our race was along in the universe" (p. 167). Psychology is seen as the best and often only way to treat people's mental and emotional health issues. In our modern world, the benefits of healing through nature appear to be a forgotten truth about humanity. Our relationship with the natural world came before humanity was capable of conscious reflection (Westlund, 2015), yet who we are as a species and how we exist on this planet reflect that relationship. Industrialization and urbanization have caused us to stray far from our relationship with nature and now it is time to re-kindle those important bonds.

Traditionally, health was seen as a function or state of the individual and their relationship with their environment (Stevens, 2010). Notions of self, illness, and well-being relate to our environmental context. We are always in interaction with our environment; our sense of dis-ease and illness (in all of its forms: mental, emotional, and/or physical) is affected by such interactions. It is therefore logical to assume that if the environment around us changes, we are inevitably changed. Today health and illness are seen only as functions of the individual and they are treated according to function (Stevens, 2010). In other words, a person suffering from cancer or depression is seen as the source of this malady and is offered treatment that addresses symptoms and or attempts to cure their illness. What Stevens is trying to convey is that in treating things like cancer and depression, health professionals (as well as society) should be looking at the bigger picture that portrays the causes for these epidemics amongst humans in the modern world. With cancer, for example, more attention needs to be paid to the amounts of toxic chemicals we are exposed to every day of our lives and therefore work toward changing a system is that killing people by the millions rather than singularly treating the individual's cancer. The same argument can be made for mental illness. If the environment were considered to play a crucial role in health, we would medically and psychologically focus more on addressing the causes rather than the symptoms of illness. We would look at context to a greater degree and at how and why urban environments in particular make people mentally unwell. In order to tackle the causes of illness rather than attacking only the effects, we must first remember how embedded we are with our environment and its destruction cannot take place without destroying ourselves.

Attempts have been made to enhance the natural environment in urban settings, but generic green solutions for urban landscapes are often ineffective. The reality is that higher rates

of psychiatric illness are found in areas deprived of natural green spaces (*The Urban Environment*, Anonymous, 2007). The most deprived areas tend to have populations with lower socioeconomic status; lower income neighbourhood residents often suffer from a plethora of urban stressors. These urban stressors usually come as a "package deal" and those marginalized within urban settings experience most of them simultaneously: unemployment, poverty, violence, noise. As if these circumstances were not enough, these same populations have little or no access to green spaces to which they can retreat and reconnect with the environment and with nature specifically. There is a sense of having an inability to escape which leads to poor mental health in the form of anxiety, depression, chronic stress, and isolation, low self-esteem, and overall hopelessness (*The Urban Environment*, 2007). In 2002, the United Nations summit called for integration of the environment and ecosystems with everyday human life. It is time for ecotherapy to be considered as a viable if not essential treatment option.

What is Ecotherapy?

Ecotherapy is an attempt to merge human mental health with nature in a therapeutic way. Ecotherapy attempts to regain a lost relationship and return meaning to life while addressing the symptoms of the state of dis-ease we humans are experiencing. Elizabeth Nesbit (2015) brings awareness to the fact that changing the environment around us can profoundly affect us over a long period of time: "getting people to spend time in a natural setting seems to act as a 'reset', changing the way our bodies and minds react to the environment and allowing fatigued faculties time to be restored" (pg. 267). When our access to nature was more immediate we could regularly, even on a daily basis, be able to restore energy sapped by the stresses of the day. Today our access to natural spaces within the urban setting is so limited that our bodies and

minds are left to fend for themselves as they carry the weight of years of accumulated fatigue. Many jobs offer vacation time as a way of “allowing” their employees to ‘reset’ for the year so they can continue to perform appropriately at work. Sadly, two weeks a year is not enough for anyone to release the stresses of urban life, work life, family life, and personal life.

Marginalized populations in particular have little or no access to green spaces and they are not even financially able to take those “getaway” trips that some people can afford. There is a reason why many people choose their two-week vacation to be at all inclusive resorts near the beach. The less they have to do, decide, or engage with the more it feels as if they have relaxed. All-inclusive resorts are based on massive alcohol, food, and entertainment consumption paired with total inactivity by the pool or seaside. In reality all people are doing on their vacation is escape, forget, avoid, and "numb out" while they spend their hard earned money to do so. They often dread returning to work and “real life” but it will probably be another year before they get a chance to shut life out again. The way I see it, this has become the definition of “living” in modern western society. The situation I have just described is even more dramatic when marginalized populations are considered; they have less ability to engage in "getaway" strategies and, in addition may be unable to access or engage with nature and recreation at home. However, if people had access to wooded areas at the beginning and end of each day, there would be a small opportunity to feel a little bit of healing each day. Ecotherapy attempts to reconnect people to themselves, their environment, and as a result, to life itself. At the same time, ecotherapy advocates for the importance of accessible green spaces in every community (Burls, 2005).

There are a number of benefits that ecotherapy claims to offer. This nature-based therapeutic practice promotes re-connection with the natural world as a symptomatic relief to

mental illness and emotional distress as well as functioning as a strategy for preventing unhealthy or self-destructive approaches to dealing with stressors. Although environmental issues have become common discourse in our western social and political systems, we must also begin to look at environmental protection for its intrinsic value as a mental health resource (Nisbet, 2015). When it comes to depression, for example, immersing oneself in nature not only relieves symptoms but also creates positive effects such as less mental rumination and fewer negative thoughts (2015). The quantity and length of the duration of positive emotions is increased, reducing the levels of stress that may have contributed to the depression from the outset. Nisbet notes, “in greener communities neighbors interact more with each other as people also tend to feel safer and better adjusted” (pg. 36). The greater the amount of time spent in nature, the longer the happiness boost persists, and the shift is more intrinsic rather than temporary and superficial. A stronger sense of connection with the natural world is important for both personal and environmental reasons. The happier and healthier people are as a result of access to natural environments, the greater their tendency to behave in ways that are environmentally friendly (Westlund, 2015). If one reads books under their favorite tree and this experience is a source of peace and joy for them, they are most likely not going to cut, harm, or destroy the tree but rather care for it and protect it.

The Human Psyche and its Relationship with Nature

Nature is of primary importance to the human psyche. The human personality develops in a ‘matrix’ comprising predominantly non-human elements such as trees, clouds, stars, land, and animals. Searles (1960) observed that when “humans ignored their connection between their psyche and nature it endangered their psychological well-being” (p. 162). It is this same

observation that led Fisher (2006) to conclude that urban and individualist societies are the root of much of human suffering embodied in the form of grief, despair, anxiety, depression, and addiction. The goal with ecotherapy is to create a therapeutic model that is life nurturing both for people and nature. Ecotherapy attempts to expand in people what Goldeman (2010) refers to *ecological intelligence*. Ecological intelligence is “our ability to adapt to our ecological niche” (pg. 43).

Fisher (2006) states that “our experience is always directing us towards some sort of contact with the world and the world itself calls for our experience in exchange” (pg. 26). Social interactions are crucial to human wellness; therefore ecotherapy does not just suggest that humans go into green spaces as the only source of healing. The therapeutic relationship between client and therapist continues to be an important aspect of therapy but ecotherapy takes the therapeutic process into ‘greener pastures’ so to speak. It attempts to create a holistic therapeutic approach in which the most important aspects of what is therapeutic for people come together in collaboration. Being in the natural world opens people to the possibility of making deep contact with themselves and others in the same way that any good therapeutic relationship does. Ecotherapy helps us accept that the mind is a physical manifestation of a system (embodiment) which is itself embedded in a physical environment (embedment), in hopes that perhaps we can fundamentally change ourselves and our relationship to our environment (Stevens, 2010). As Stevens notes, “if our mental world really is so intimately connected to the land around us, this should be obvious in the way our bodies respond to where they are” (pg. 267).

The notion of ‘disconnectedness’ informs the practice of ecotherapy. Burls (2005) quotes Nesse’s (2004) report on the sociological dilemma of modernity which contends that “since the enlightenment and industrial revolution, particularly in the west, people generally live in much

more sterile and comfortable conditions yet the vast majority of people are deeply unhappy or live lives that are frantic, meaningless, or both” (pg. 27). Society is starting to realize that the accumulation of material goods and isolation from nature, the kind of lifestyle found in urbanized societies, leads to a never-ending cycle in which we attempt to fill the emotional void that our disconnection from nature produces. Dysfunctional behaviours often develop in order to meet such a need. The term *biophilia* was coined by Wilson (1984) and refers to the connection that human beings subconsciously seek and need with the rest of life (nature). Ecotherapy attempts to bridge the gap between the innate need for human beings to connect with the natural world to which they belong, and the demands of life which tend to generate a “nature-disconnected society”. Ecotherapy focuses on *embracement*, which in this context is defined as social inclusion derived from directly connecting nature and marginalized people in an effort to alleviate some symptoms of their living conditions (Goleman, 2010).

Ecotherapy supports disadvantaged, disabled or marginalized people to work with nature in a therapeutic way. The form of the work varies and ranges from horticultural practices and green space conservation, to nature walks and excursions. Ecotherapeutic approaches are based on the tenet that improvements in both individual and public health require approaches that span the whole of the community and the environment (Burls 2005). The English Nature Organization (2003) reported measurements of the impact of nature on the psychological and social well-being of people and communities. The ecotherapy approaches mentioned by proponents of the practice, were reported as connecting individuals with themselves and nature, and as connecting individuals to one another, developing a sense of community. These reported relationships might stimulate social policy discourse and the recognition that healthy ecosystems are wholly interdependent.

Ecotherapy in Practice

Since the time in which psychology and psychotherapy have been a field of study there have been practitioners who have had the insight to incorporate green spaces in to their practice or in to the institutions in which people were being treated. The Quakers' Friends Hospital in Pennsylvania is an example of such a place. Part of their curriculum for treatment protocols for patients with mental health issues includes things such as gardening and nature walks. They discovered that the mental state of their patients would improve when they were exposed to such practices, and often even severe symptoms such as psychosis would subside for prolonged periods of time (Roszack, 1996). Similarly, in the early twentieth century, a home for the elderly decided to embark on the same experiment, which they called The Eden Alternative (edenalt.org). The health care professionals who worked there noticed that their residents were non-responsive and in lived in a state of hopelessness and apathy every day; some would not even get out of bed, while others just spent the day waiting for meal time as it was the only thing to look forward to in the day. In 1921, Dr. William Thomas decided to create a lush garden on the premises with the help of the residents. They decided to incorporate birds, cats, and other animals as part of the environment of the residence, with the residents taking responsibility for them. Dr. Thomas began to notice that life returned to their faces, their mood lightened, their physical, mental and emotional health got better, and those who would not even get out of bed began to do so just to tend to the animals or go for a walk. The success of this experiment was so great that it was impossible to question. However, when the Dr. Thomas died and other businesses attempted to advertise their homes as “Eden Alternative based homes”, they failed to deliver the original experience. Monetary gain became a priority once again and not the well-

being of the residents (www.edenalt.org). Ecotherapy attempts to give rebirth to therapeutic systems such as this when working with any vulnerable population.

A lot of ecotherapeutic programs have been created for veterans who return from war with post-traumatic stress disorder (PTSD). One example is the Experience Centered Narrative (ECN) program in which it is recognized that trauma and distress are experienced subjectively and embodied in various ways (including physical illness, disability, and addiction). ECN learned what veterans needed after recognizing that there was a common thread in the results of interviews with them. Most veterans reported a reduction of symptoms and sense of feeling better after they embarked on some sort of nature-based therapy (Westlund, 2015). Programs created for this purpose have appeared all over the western world in conjunction with a variety of treatments. There is a center in California that helps veterans and rescued wolves by creating an environment in which a veteran is paired up with a rescue wolf and their relationship is what becomes therapeutic for both the animal and the person. Some veterans exposed to this program have said that where talk therapy has failed them the wolves have not (Warriors and Wolves, 2011). This is a powerful example of the need and importance of ecotherapy.

Conclusion

It might be of importance to ask ourselves: what is it to be human? Etymologically the origin of the word for human is “*hummus*” (in Latin), meaning ‘of the earth, soil, or ground’. In Hebrew the word is *adamah*, which similarly means ‘ground’. No amount of denial will change the fact that human beings are of the earth -- a part of nature and nature a part of them. Westlund (2014) states that “connected to the earth and soil, human bodies and minds are inseparable from the sensible world” (p. 171). The western habit of mind, however, resists this insight, since the

separate self is a defining feature in our individualistic worldview. Whether an individual suffers from PTSD, isolation, loneliness, depression, anxiety or schizophrenia, the mainstream coping mechanisms and treatments are not changing the root cause of such maladies nor are they always promoting optimal outcomes. We must incorporate modern therapeutic approaches with traditionally understood nature-based approaches in order to give people a greater chance at both healing and mental health promoting ways of daily living.

The chapter that follows will focus on Nature-deficit Disorder. So far the focus of this thesis has been on therapeutic theories and practices related to the human/nature relationship. In Chapter Four I will take a closer look at a specific “diagnosis” that came about as a result of out troubled relationship with nature.

Chapter 4: Nature- Deficit Disorder

Introduction

In the first three chapters of this thesis we have looked into the consequences of a disconnected relationship between human beings and nature. The consequences we have discussed have been for both the survival of nature and therefore humans' overall survival/well-being. But what happens when children lose that connection to nature? For most adults today, nature was a crucial part of their childhood and their experiencing of the world. The children of today are losing this crucial component of the journey toward the discovery of being human. I have decided to dedicate this entire chapter to exploring the relationship children have to nature, discussing how vital this relationship is to the development of humanity, and exploring the consequences of not having this relationship to the lives of children today. This chapter will address the increasing divide between today's young people and the natural world and the related implications. An outcome of this discussion will be the exploration of the necessity of contact with nature for healthy child and adult development. This will, in turn, lead to a discussion of proposed alternatives being created within our society and its schools, with the goal of finding a way to re-engage children and nature within the confines of modernity.

What is Nature-Deficit Disorder?

There is a growing body of evidence that strongly suggests the importance of nature to children's health and ability to learn (Louv, 2009, p. 25) and posits possible reasons why children of today have lost that important relationship to nature that was once held so dearly. This loss that children of today are experiencing can be described as a deficit of the experience of nature in a child's life. Richard Louv coined the term Nature-Deficit Disorder (NDD) in his book *Last Child in the Woods* (2005) to describe the alienation and contact deprivation from the natural world, and the costs of this to children (Driessnack, 2009, p. 73). Nature-Deficit Disorder is not a medical diagnosis but an attempt to address the root cause of the growing epidemic comprising the disconnection of today's children's to nature,

potentially resulting in a culture of fear (and, therefore, loss of freedom) and a reluctance to play outside; in addition, this perspective addresses the impact technology has had in shaping the life of a child (Louv, 2009, p. 2). Nature-Deficit Disorder is about much more than just having time and places to play outside. It concerns the types of outdoor places where this precious outdoor time is taking place (Sandry, 2013, p 32). Sandry describes this further by stating that: "backyards are becoming smaller and more manicured. Every 'dirty and scary' insect seen is being eliminated and a cause of disgust. Families are time-poor, tired and over stimulated so visits to truly natural settings are being replaced by visits to theme parks, the movies, shops" (p. 32), or staying indoors with technological commodities that allow children to pretend to be participating in life. Sandry comments on the suing culture of North America today and its impact on the freedom allotted to child-play: "People are suing when the footpaths make them fall and the sun burns them. We have condemned forms of outdoor activities that often scare schools into non-involvement. Just for planting some seeds in a pot to watch them grow, there is detailed form, including wrapping students in gloves, masks, goggles; making the experience as unnatural as possible (p. 32)".

Edward O. Wilson wrote about a concept of human beings tendency towards biophilia in his book *The Biophilia Hypothesis* (1993). The hypothesis suggests that there is an instinctive bond between human beings and other living systems (PAGE). In his book *Biophilia* (1993) Wilson describes the concept as the "urge to affiliate with other forms of life". Wilson draws upon David Fromm's (1972) perspective that human beings' psychological orientation is to be attracted to all that is alive and vital. Fromm believes, and I strongly agree with this statement, that humans subconsciously seek a connection with the rest of life. Wilson expresses this further by saying that humans "love all that is life or living systems". I believe it is this connection that makes us human and gives us a place to belong to: earth. There is nothing more important to a child's experience than having a sense of belonging, and there is no greater belonging than that of humans our belonging to the earth.

Benefits of a Nature-Filled Childhood

In the past several decades, the way children understand and experience nature has changed radically. Although kids today intellectually understand the threat nature is under, their personal intimate relationship to nature is fading (Louv, 2005, pg. 1). This begs the question: "Why do children need to experience the natural world?" There is the generic answer such as "direct exposure to nature is essential for healthy childhood development and for the psychological and emotional health of children" (Wikipedia, 2016). Much of the research that attempts to answer this question answers it in a similar ways that I will be discussed throughout this chapter. Indeed, if I were asked why this was important to me in my childhood, I would say something similar to what the research suggests, and when today's children are asked this question, if they have been lucky enough to experience nature directly, they tend to also answer in a similar manner. So what is the answer to the question posed above? In *Last Child in the Woods*, Louv reports on interviews with children in the fifth grade, and their responses to being asked the question noted above. Most children expressed not having much experience with nature, and others said they were unfamiliar with what was being asked as they spent most of their free time online or playing video games. There was one little girl in that fifth grade class who until recently still had access to a wooded area behind her house, and her answer to Louv's question was as follows: "It's so peaceful out there, and the air smells so good. I mean, it's polluted but not as much as the city air. It's like you are free when you go out there. When I'm mad and I go play in the woods, then just with the peacefulness of it, I'm better. I come back home happy and my mom doesn't even know why. One day, they just cut the woods down, it was like they cut down a part of me." That answer alone should be all the evidence we need to support the argument that nature is crucial to a person's childhood. Unfortunately, most children today, when faced with a question of this type are not able to answer it, because the subject is something they know nothing about (Kellert, 2002).

Whatever shape nature takes, it offers each child an older, larger world separate from their parents or their peers (Louv, 2005, pg. 7). Unlike television, nature does not steal time from children but amplifies it. What do I understand this to mean? I understand this to mean that when a child is hooked to

technology he or she has disconnected from reality, and from themselves, each other, and the world around them. The time that went into such indoor activity disappears into a vacuum of instant gratification. Meanwhile, spending time in nature, playing in nature, does the complete opposite for children: they are in connection with it all, and with their own imagination and sense of freedom; they are connected with the other children they are playing with, to the world, and to the other living things they co-exist with on earth. This experience is conducive to learning, growing, understanding, and becoming human. Time gets amplified into all these dimensions.

Nature offers healing for a child living in a destructive family or neighborhood (Louv pg. 7). Just like Jensen did (in his book *A language Older Than Words*), Louv makes the connection between childhood trauma and nature's ability to heal it (or at least help with the survival of it): "Given a chance, a child will bring the confusion of the world to the woods, wash it in the creek, turn it over and see what lives on the unseen side of that confusion" (pg. 7). Nature serves as a blank slate upon which the child draws and re-interprets the culture's fantasies (i.e. religion, politics, and social norms). These fantasies are non-existent in the natural world, nature's only laws are survival and cause and effect (Kellert, 2002). Children learn the laws of nature by experiencing nature, and these are laws that are critical to our development. In nature a child is free to be whomever, and whatever they want to be. This freedom allows for the discovery of self. The non-judgment of that which lives in nature allows for that discovered "self" to flourish into a sense being worthy of love and being perfect within one's imperfections. Nature time contributes to a person's inner contentment. The lack of this contentment causes further problems that relate directly to Nature Deficit Disorder's consequences.

Nature teaches a child boundaries and life lessons that remain forever. If you touch the wrong plant, climb a tree too high, or threaten a living thing, you experience the immediate consequences of that boundary violation. Louv expresses this sentiment by writing that "nature can frighten a child too, and this fright serves a purpose. In nature, a child finds freedom, fantasy, and privacy: a place distant from the adult world, a separate peace (pg. 6). John Milton describes nature as "a wilderness of sweets" in which magical sights can be found (especially by children) as well as a place of archetypal power, teachings, and

challenges (Magill, 1965). "Nature inspires creativity in a child demanding visualization and the full use of the senses" (Louv, pg. 8). Children use the full extent of their imagination when playing in natural settings. The invention of games and worlds from our own minds has no better place than in wild settings (Sandry, 2013).

The above have been interesting examples of the overall benefits that exposure to time in nature has on children. But what about the benefits it has on particular medical issues the children of today are facing in greater numbers every day? A study done by HERL (Human Engineering Research Laboratories, 2016) shows that children exposed to nature show a significant decrease in ADHD (Attention Deficit Hyperactivity Disorder) symptoms. Conversely, there is a rise in symptoms associated with ADHD with the decrease of outdoor activities. Louv suggests that hyperactivity is calmed by nature (2009). Burdette and Whitaker published a paper which supports this assertion and states that "direct exposure to nature enhances children's attention span and focus, their creative thought process, problem solving abilities, self-discipline, and self regulation" (2005). According to Kou and Tayler (2004) the greener the natural settings the child is exposed to, the greater the relief of hyperactivity symptoms. In part, this is due to an immediate reduction of stress and the increase in physical and mental activity.

Exposure to nature enhances a child's cognitive abilities, especially those related to executive functioning (Wells, 2005). For children with cognitive disabilities, exposure to nature has been shown to increase the degree of cognitive function. Kahn and Keller believe that the bond between animals and children have high benefits to children diagnosed with autism (2002). Ben Klasky in his TED Talk "Getting Hooked on Nature" talks about the many benefits of nature has on children but particularly emphasizes the transformative benefits of nature. He gives two perfect examples of such a transformation. The first example he gives is of a boy from a Californian inner city, Juan Martinez. This particular inner city had 70% of students who were high school dropouts. Juan kept getting into trouble during high school, and at one point he was given two options: expulsion or the chance to join the eco-club. Although being expelled would have made him more popular with his peers he decided to join the eco-club. Today Juan has a successful career as a National Geographic Explorer. The second example that Klasky gives is

one of an elementary school girl from New York's inner city. She was suffering from selective mutism due to a traumatic event she had experienced and had not spoken a word in months. Her class went on an excursion to the woods, and as soon as the girl saw a deer she spoke for the first time in a long time. For Klasy, "the great outdoors is a real world remedy that can solve the toughest physical and emotional problems of today" (2014). Unfortunately, society has taken a turn in which the dangers of playing outdoors have overridden the benefits once attributed to connection with nature. At the same time, dangers of the digital world are more deeply rooted in a child's psyche (rather than just a broken arm or scraped knee) have become acceptable. Some of these dangers include the deterioration of social skills, of cognitive development, chronic unhappiness due to disconnection from other people, and many more (Klasky, 2014).

Modern Children: The Third Frontier

Louv defines America's Third Frontier as the broken link between human society and the wilderness, including our link to farming (p. 27). The third frontier is populated by today's children and is "characterized by at least five trends: a severance of the public and private mind from our food's origins; a disappearing line between machines, humans, and other animals; an increasingly intellectual understanding of our relationship with other animals; the invasion of our cities by wild animals (as our synthetic green spaces takes over their natural habitat)" (2005, p.19). For the newer generations nature is more of an abstract concept rather than a reality. Nature has become a means to an end: something to watch, consume, exploit, and ignore. Driessnack, in his paper "Children and Nature Deficit Disorder", discusses how modern childhood has migrated indoors in the past generation and proposes that there are high prices to be paid for that (2009, p. 73). Most of today's children's nature experiences happen from the car window, apartment window, classroom window or through television. Children age 8-18 spend an average of 6.5 hours/day on technology (2009). They can better identify the ecological crisis around the world rather than the flora or fauna in their own backyard. Driessnack refers to a survey Louv did in 2008

with a group of 800 mothers in the U.S. A majority of these mothers agreed with the basic idea that nature was important to children but that fear of safety and the convenient nature of technology made it easier to keep children inside. Direct exposure to nature has been replaced by indirect exposure. This causes the loss of our ability to experience the world directly. Some of these consequences have been documented, such as the growing inability of children to relate to others, and the loss of children's capacity to think for themselves or learn about the world from a multidimensional perspective rather than just regurgitating what they learn in the classroom or online (Klasky, 2014). This inability to feel connected to others or to the world is one of the causes of childhood stress, anxiety, depression, and other medical childhood diagnoses (Driessnack, 2009).

Children's lives are becoming too 'busy' and 'structured' now for much play time. There is a severe increase in the rates of childhood obesity, ADHD, impaired social skills, mental health issues, and cognitive disabilities amongst children (Driessnack, 2009, pg. 74). Mental and emotional stress and scars have replaced the once common scraped knee or broken bone, a key part of the childhood experience. Children today as compared to that of their parents' generation spend less time outdoors than chickens or inmates do (Klasky, 2014). At schools, fewer than 15 minutes a day may be spent outdoors (2014). The ability of children to be allowed to or to want to play in the streets of their communities is decreasing. The outdoor play of today's children has decreased 50% from that of their parents, yet obesity has tripled and ADHD medicated children have increased 40% (Klasky, 2014). Many professionals are trying to voice the reality that green/nature therapy is the better alternative to medication for these health issues (2014). "Our society is teaching young people to avoid direct experience with nature. The lesson is delivered in schools, families, even organizations devoted to the outdoors, and codified into the legal and regulatory structures of many of our communities" (Louv, 2005, p. 2). However, as the young spend less and less of their lives in natural surroundings, their senses narrow, physiologically and psychologically, and this reduces the richness of the human experience. The bond is breaking between the young and the natural world. A growing body of research is attempting to link mental, physical, and spiritual health

directly to our association with nature (Louv pg. 3). Research is trying to correlate nature to being as important to wellness as is proper nutrition and adequate sleep.

Bill McKibben's book *The End of Nature* (1989) depicts the sadness of a world where there is no escaping man's destructive behaviors towards nature. Generation Z (children born between 1995 to 2012) (William J Schroer, 2016) is inheriting a world with monumental problems including climate change and environmental devastation (Anderson, 2016). An outcome of belonging to a world and a time in which the internet makes us aware of the happenings on every corner of the world is that we get to have a sense of belonging to a global community, yet most people have a sense of not belonging anywhere since what is disappearing are families, communities, and nature, the only places where true belonging takes place (Louv, 2005). Experiencing the natural world is one of the only things that cannot be replicated by watching it, reading about it, or hearing about it. Direct experience is the only way to benefit from the experience of what nature can do for children.

Conclusion: Alternatives in Modern Education

Healing the broken bond between our young and nature is in our self-interest because our mental, physical, and spiritual health depends upon it. Healing this broken bond is a goal of dealing with or resolving Nature Deficit Disorder. "The health of the earth is at stake as well. How the young respond to nature, and how they raise their own children, will shape the configuration and conditions of our cities, homes, and daily lives" (Louv, 2005, p. 3). It is up to educators, parents, and communities to heal this broken bond. Louv describes natural teachers as those who intuitively or experientially understand the role nature can play in children's education and health (2009). One of the basic goals in the attempt to restore this bond is to use the surrounding community including nature as the preferred classroom. David Sobel (YEAR) studied how in "place-based" education outperform their peers in traditional classrooms. There are several studies that show evidence that school programs which use nature settings as part of their education see improvement in all academic fields.

So what is the teacher's role? Sandry believes that the role of today's teachers is to provide hands-on experiences with the natural world. Some say that this should not just be the educator's role but the parent's role as well. Realistically, most households don't have the time, finances, or ability to expose themselves to nature since wilderness is becoming more inaccessible as cities continue to develop and expand. Dr. Roger Walsh (1999) believes that both schools and parents today are failing at providing basic exposure to nature for children. Most of today's education is oriented at making a living rather than a life. Creativity, he says, is as important as literacy and there is no better place to explore creativity than in nature. There is however, a growing educational revolution of kids having access to nature-based education.

Two proponents of such nature-based education are Lora Smothers (2014) and Logan LaPlante (2013). Both have riveting TED Talks about the subject. Lora in her "Going Natural in Education" talk discusses how the responsibility for educating kids has shifted from parents to schools as parents today do not seem to have the time. However, the government and their standardized curricula now more and more control schools. She gives credit to educators who continue to try and empower kids under those circumstances. LaPlante is one of those kids who has been given the opportunity to attend a nature-based education. At the age of 12 he already had a vastly viewed TED Talk on the subject. LaPlante speaks out about the importance of having the goal of being happy as the only life goal. He understands that happiness is harder to access, especially for children, if there is no exposure to nature. "A lot of kids today are just wishing to be happy, adults automatically assume they will be but it's not made a priority in today's schools". He suggests making education a part of being happy, and in his experience of nature-based education, he believes it is possible. At the age of 12 he already understands the "science of being happy and healthy" and it is composed of 8 basic principles: exercise, diet and nutrition, time in nature, contribution and service, relationships, recreation, relaxation and stress management, and religious or spiritual involvement. The advanced perspective LaPlante has is based on the type of education he has and having parents that understand and support this. There is however, a not enough of these schools for all the children that need it. Sandry believes that growing trend of community gardens is an attempt at

providing access to some of the above principles within urban cities (2013). Community gardens create a sense of belonging, friendship, community, reconnection to food supplies and hands on connection to nature. This hands on re-connection to nature and bringing things to life re-connects us with our humanity and the earth within the parameters of our urban cities. Although we have a far ways to go regarding a return to nature, people are already making small changes in the right direction.

The first three chapters of this thesis were focused on the adults who struggle due to living in a social system that promotes individualistic values and a lack of connection with nature. We have also looked at how therapeutic theories and techniques that use nature as part of the healing process can be beneficial to help alleviate people's suffering. This chapter took us a step even further back to childhood and attempted to recognize that the problem is starting sooner than in life, at an age in which nature is most crucial to well-being as these our people's formative years. My hope in looking at NDD is that we will fix the problem of nature deficiency in childhood so there are less suffering adults to "repair".

*Chapter 5: Concluding Chapter***Summary of Major Findings**

Throughout this paper the importance of the relationship between nature and humans has been explored. This relationship has allowed our species to survive to this point in time. The unfortunate reality that modern civilization faces has been discussed: the neglecting of the importance of this relationship and its significance to human health and well-being. The human-nature relationship is critical not only for the survival of humankind itself, but for the survival of nature as well. A most underestimated reality is that without our relationship to nature, the quality of the experience of being human is declining rapidly. This thesis has explored the direct correlation between the increase in overall unhappiness (and associated physical and mental health issues) amongst urban populations and the decrease of accessible natural spaces. The manifestations of this unhappiness for both children and adults have been noted as have the predominant consequences of this disconnection: physical, mental, and emotional unwellness and the variety of forms these take. When we look at the concept of connection to nature, the conclusion is that nature is a key component within human life and has a direct effect on our well-being. Conversely, within a world facing an environmental crisis of pandemic proportion, the only way for people to begin to take responsibility for their part in the protection of the natural environment is to reconnect with that which they are meant to be protecting.

Sandry (2013) states:

“A growing body of supporters believes that connection to the natural world also has broader social implications. Many humans have forgotten that our existence depends on the natural world. We have become so used to controlling everything and yet nature is the major inspiration for our art, our engineering, and many of our

sciences. To spend time in the natural world is regenerating. It provides for our food and the cleansing of our planet. If people do not spend time in truly natural settings they will become more and more desensitized until they will forget and no longer understand what it is they are missing and why it needs to be saved.” (p 34).

This point captures the essence of the issues explored in this thesis and the arguments for humans' proactivity in both interacting with and protecting the natural environment. Ideally, as I have discussed in chapter four, this would begin to happen from the time we are children as it once so naturally did. Although Nature-Deficit Disorder (NDD) is not in the Diagnostic and Statistical Manual of Mental Disorders (DSM) as a mental disorder, the term expresses the importance of looking at the problem that is today's “denatured Childhoods” (Woodburn, 2008). It is harder to teach adults to build a relationship with something that is foreign to them rather than simply remind them to re-connect with something they once knew. Ben Klasky (2014) speaks about an experience he has often when taking inner city kids to an excursion to nature. He is quite shocked by the fact that as he is picking these little girls up they sometimes hear gun shots nearby, the children in the bus do not even flinch or react in any way to the sound. However, as soon as they get to the woods, they are screaming over every bug and every sound. This is a prime example of not only how desensitized we are becoming to the deterioration of human life but also how far removed we are from the one thing that is of most importance to returning to a state harmony within ourselves, with each other, and with the planet. It will be very difficult, if one of these kids ends up in our office as adults, to suggest to them that nature has healing benefits and tap into their willingness to expose themselves to it.

Implications for the Counsellor and the Therapeutic Process

It is the responsibility of therapists to educate themselves on the issues discussed in this thesis. With our heightened awareness of the ways in which aspects of modern society are affecting the health of the human population, we must take direction for how we implement the therapeutic process. This consciousness is particularly relevant when working with clients facing addiction, depression, anxiety, and other forms of mental and emotional difficulties.

Neuroscientist Neil Sharma wrote a piece on addiction in *Vice* magazine (2015). He states:

"Psychological and interpersonal tools are very important. Addiction has to do with isolation and feeling alone, not having a support network and not being able to deeply connect with other people. You can superficially connect and have a nice circle of addicts, but not connecting with people in a way that is harmonious and fulfilling, those are the people that are really vulnerable to addiction. They're lonely, depressed, anxious and traumatized. It's just like the Rat Park [Bruce Alexander's study into drug addiction]. What Sharma said doesn't just apply to humans; it applies to other animals, too. Isolation is really bad for you and it's the underlining factor of addiction" (2015).

Sharma's words may not specifically address the role(s) of the natural environment and its potential synergy with "human beingness", but they resonate nevertheless with the arguments posed in this thesis; there is no greater sense of isolation than living on a planet to which we do not feel we are a part of.

Addiction takes many forms. When people think about addiction they usually think of drugs and alcohol, but in today's world the forms of addiction are limitless. Work, love, food, television, shopping, social media, and many other forms of habituation are not only common, but also unquestioned by society. The outcome and similarly the triggers for all these forms of

addiction is the same: a sense of emptiness, unhappiness, and disconnection from self and others. These experiences have become some of the most common reasons why people seek therapeutic professional help.

Most therapy addresses these issues on family and community levels, and especially on an individual level. Therapists look at how to mend the client's relationship with their loved ones, how the client can be active in their community or access a support network, and more than anything, they support the client in "changing" thoughts, feelings, and behaviours that are causing unhappiness and all that accompanies it. The argument I am trying to make here is that it is also the therapist's responsibility to include the human-nature relationship into therapeutic work with clients; at the very least, the human-nature relationship should be mentioned as a possible reason and/or solution to the client's struggle. Ideally, this would be a primary form of treatment prior to prescribing medication. If the deepest form of healing (which nature can provide) ends up being not enough for a particular client or situation, then medication can be looked at as a solution (this does not necessarily include people with illnesses so severe for which therapeutic outcomes are not possible until they are medicated).

Medication dispensed by pharmaceutical companies as well as self-medication through drugs and alcohol has also become a "normal" solution to these ailments. Meanwhile, proponents of the importance of nature to our well-being are trying to offer natural solutions to these problems. As has been noted throughout this thesis, nature not only heals emotional and mental wounds but it can also heal physical illnesses. This is a topic rarely discussed in mainstream media or society. The documentary film "Grounded" by director Steve Kroschel (2014) focuses on the healing power of the earth on the body, and is one example of an attempt to raise awareness of the role of nature in human health. As we see an increase in mental illness

(including forms of dependency and addiction) we are also seeing an increase in cancer and other physical illnesses for both children and adults. "Grounded" is a documentary that explores the healing powers of 'earthing' or 'grounding' which is the act of spending time physically connected to the earth. Kroschel spends twenty minutes a day every day of the year naked and buried under dirt, and has cured his cancer this way. In his film, he heals an Alaskan town of their physical illnesses by offering them this solution.

As health care professionals it is our moral responsibility to treat our patients to the best of our ability. Ignoring the human-nature interaction is to deny a crucial component of what might be at the root of the suffering of many of our clients. I believe that ideally all therapy should at least consider, if not actively incorporate, the nature-human relationship in their practice. For practical and ethical purposes most therapy takes place in an office within four walls. There are practicality, insurance, safety, and other issues that make this a reasonable boundary. However, I believe that the therapeutic community needs to begin to embrace the possibility of therapeutic walks, or nature-based treatments, as part of the curriculum in therapy training schools. In the very least as a therapist I am committed to suggesting to my clients to include nature into their healing process and to ask them how they feel, how they are affected by their lack (if there is one and it is applicable to the case) of a relationship with nature. If they do not know the answer to this question I would suggest they take the time to incorporate nature into their healing process. They might or might not decide to do it, but I believe it is my responsibility (and that of my fellow therapists) to remind the people that seek my services, to tap into a component of their humanity that they might have forgotten about.

There are therapists who focus on various approaches that involve nature. There are also a variety of animal-based therapies that have been proven successful. There are therapists who

simultaneously get trained in shamanic practices in order to incorporate an earthly/spiritual aspect to their practice. There are therapeutic groups that go on hikes in the woods as part of the healing process. However, all these therapies are considered specialized and unless a client is already looking for a nature-based therapy they are likely to not get access to it.

As we have explored throughout this paper, human disconnection from nature and its consequences are something most people have not yet recognized. Most people are so busy trying to survive in a monetary economic system, raise a family alone (as it no longer is believed that it takes a tribe to raise a child), and are unaware of the reality of the consequences of the social and environmental system they live in. It is up to professionals to introduce a deeper, more holistic approach to healing so that we contribute to both an individual's path to wellness as well as their ability to pass on this awareness to their family and community. But how are these professionals supposed to use a tool that they themselves have not learned in their schooling and that most likely, like most other people, they have forgotten to use in their personal lives? This thesis is an attempt to remind my colleagues, who choose to be therapists out of the desire to help people heal, that they might be missing an enormous part of the puzzle; it is time we incorporate the human-nature relationship into the overall practice of being a therapist. Ecopsychology, as a subspecialty within the broader field, should be a mandatory class for future therapists to take as part of their education.

Limitations of Study

According to Dr. Daniel Amen (2015) 51% of people in the U.S will suffer from some sort of mental disorder at some point in their lives. Pharmaceutical companies --and indeed health professionals -- are unwittingly exploiting this epidemic by normalizing it and medicating

it with pills. The longer we accept un-wellness as the normal state of the human condition, the further we will decline to a point of no return for both humans and the natural world alike. This thesis has summarized the genesis of unwellness (and mental health issues in particular) and proposed a link to human-nature disconnection. The discussion of health issues and their relationship to humans' lack of connection with the environment has been grounded in the literature to the extent possible, recognizing that this is an evolving field of inquiry and that further research must be done. Teaching future therapists about a crucial component of what might be affecting many of their clients is key to propelling all of us (humans and nature) forward in an attempt to return to a harmonious relationship.

Sadly, there is a reality that proponents of ecopsychology, ecotherapy, nature-human relationship, and earthing must face. Anything in defence of nature -- and in particular anything that gets humanity caring about the planet and themselves again -- may constitute an ideological war with mainstream media, government agendas, and most of all, those who control it all, corporations and the economy. It is because of this reality that, to me, the biggest limitation of this paper and this topic, is reinforcing the message about the importance of nature to the general public. In my opinion there is no topic of greater importance than that of making the world a better place for all once again. These constraints of generalizability are what will prevent the ecopsychology movements from influencing therapeutic approaches as much as they potentially could.

References

- Alexander, B. K. (2008). *The Globalization of Addiction: A study in poverty of the spirit*. Oxford: Oxford University Press.
- Amen, D. G. (1994). Brain Imaging, Dr. Amen replies. *Journal of the American Academy of Child & Adolescent Psychiatry*, 33(5), 762. doi:10.1097/00004583-199406000-00027
- Bateson, G. (2002). *Mind and nature: A necessary unity*. Cresskill, NJ: Hampton Press.
- Berger, R. (2009). Being in Nature: An Innovative Framework for Incorporating Nature in Therapy With Older Adults. *Journal of Holistic Nursing*, 27(1), 45-50. doi:1
- Bonnes, Mirilia, and Secchiaroli, Gianfranco. *Environmental Psychology: A Psycho-social Introduction*. Thousand Oaks, US: SAGE Publications Ltd, 1995. ProQuest ebrary. Web. 25 April 2016.
- Burls, A. (2005). New Landscapes for Mental Health. *The Mental Health Review*, 10(1), 26-29. Retrieved-from <http://proxy.cityu.edu/login?url=http://search.proquest.com/docview/213844393?accountid=1230>
- Davis, J. *The Transpersonal Relationship of Ecopsychology: Nature, Non-duality, and Spiritual Practice*. Published in *The Humanistic Psychologist*, 1998 (Spring/Summer/Autumn), vol 26 (numbers 1-3), pages 60-100. Special issue on Humanistic Psychology and Ecopsychology (Elizabeth Roberts, Guest Editor)
- De Waal, F. B. M. (1997). *Are We in Anthropodenial?* *Discover* 18 (7): 50-53.
- Desy, P.L. (March 20, 2016), What is Holistic Healing? Retrieved from www.healing.about.com
- Driessnack, M. (2009). *Children and nature-deficit disorder*. *Journal for Specialists in Pediatric Nursing*, 14(1),73-5. Retrieved from: <http://proxy.cityu.edu/login?url=http://search.proquest.com/docview/195763332?accountid=1230>
- Doherty, T. J. & Chen, A. (In Press) *Improving Human Functioning: Ecotherapy and Environmental Health Approaches*. In R. Gifford (Ed.). *Research Methods in Environmental Psychology*.

- Ecotherapy. (2007). *Journal of Public Mental Health*, 6(2), 52-53. Retrieved from <http://proxy.cityu.edu/login?url=http://search.proquest.com/docview/212385121?accountid=1230>
- Evans, M. (2013). Radical ecopsychology: Psychology in the service of life. *Choice*, 50(11), 2105-2106. Retrieved from <http://proxy.cityu.edu/login?url=http://search.proquest.com/docview/1400483317?accountid=1230>
- Fisher, A. (1996). *Toward a more radical ecopsychology: Therapy for a dysfunctional society. Alternatives Journal*, 22(3), 20.
- Foglia, L. (January 2016). *This is your brain on nature*. Retrieved From <http://ngm.nationalgeographic.com/2016/01/call-to-wild-text>
- Gibney, E. (February 23, 2016). When the human in humanism isn't Enough. Retrieved from <http://thehumanist.com/magazine/march-april-2016/features/human-humanism-isnt-enough>
- Glendinning, C. (June 2015) *Technology, Trauma, and the Wild*. Retrieved from <http://www.primitivism.com/technology-trauma.htm>
- Griffin, D. R. (1985). Biophilia . Edward O. Wilson. *The Quarterly Review of Biology*, 60(4), 482-483. doi:10.1086/414572
- Hay, R. (2005). Becoming ecosynchronous, part 1. the root causes of our unsustainable way of life. *Sustainable Development*, 13(5), 311-325. doi:10.1002/sd.256
- Hillard, T. J. (2009). Out of the shadow: Ecopsychology, story, and encounters with the land. *MELUS*, 34(2), 194-196,208. Retrieved from <http://proxy.cityu.edu/login?url=http://search.proquest.com/docview/203700642?accountid=1230>
- Housing association sees dramatic fall in use of psychotropic drugs*. The Eden Alternative® - Improving the Lives of the Elders. Retrieved August 15, 2016, from <http://www.edenalt.org/http://www.24housing.co.uk/news/housing-association-sees-dramatic-fall-in-use-of-psychotropic-drugs/>

- Howard, B.C. (September 4, 2015). *Learning from indigenous peoples on climate change*. Retrieved from <http://voices.nationalgeographic.com/2015/09/04/learning-from-indigenous-peoples-on-climate-change/>
- Hultine, S. (2007). Last child in the woods: Saving our children from nature-deficit disorder. *Community Development*, 38(1), 109-110. Retrieved from <http://proxy.cityu.edu/login?url=http://search.proquest.com/docview/224654489?accountid=1230>
- Jensen, D. (2000). *A language older than words*. New York: Context Books
- Kahn, P. H., & Kellert, S. R. (2002). *Children and nature: Psychological, sociocultural, and evolutionary investigations*. London: MIT Press.
- Kellert, S. R., & Wilson, E. O. (1993). *The Biophilia hypothesis*. Washington, D.C.: Island Press.
- Kellert S, editors. *Children and nature: Psychological, sociocultural, and evolutionary investigations*. Cambridge: MIT Press; 2002. pp. 117–152.
- Kirmayer, L. J., & Valaskakis, G. G. (2009). *Healing traditions: The mental health of Aboriginal peoples in Canada*. Vancouver: UBC Press.
- Klasky, B. (2014, January). *Ben Klasky: Getting hooked on nature* [Video File]. Retrieved from https://www.ted.com/talks/ben_klasky_getting_hooked_on_nature
- Kroschel, S. (Director). (2013). *Grounded* [Motion picture on DVD]. Canada: Canadian Science Broadcasters.
- LaPlante, L. (2013, February). *Logan LaPlante: Hackschooling makes me happy* [Video File]. Retrieved from https://www.ted.com/talks/logan_laplante_hackschooling_makes_me_happy
- Lee, A. (1998). Ecopsychology: Restoring the earth, healing the self. *Library Journal*, 123(1), 161. Retrieved from <http://proxy.cityu.edu/login?url=http://search.proquest.com/docview/196858803?accountid=1230>

- Louv, R. (2005). *Last child in the woods: Saving our children from nature-deficit disorder*. Chapel Hill, NC: Algonquin Books of Chapel Hill.
- Louv, R. (2009). Do Our Kids Have Nature-Deficit Disorder?. *Educational Leadership*, 67(4), 24-30
- Macy, J., & Brown, M. Y. (1998). *Coming back to life: Practices to reconnect our lives, our world*. Gabriola Island, BC, Canada: New Society.
- Magill, Frank N. "Paradise Lost - "A Wilderness Of Sweets"" Magill's Quotations in Context Ed.. eNotes.com, Inc. 1965 eNotes.com 2 Sep, 2016
- Maté, G. (2010). *In the realm of hungry ghosts: Close encounters with addiction*. Berkeley, CA: North Atlantic Books.
- McKibben, B. (1989). *The end of nature*. New York: Random House.
- Metzner, R. (2008). *The expansion of consciousness*. Berkeley, CA: Green Earth Foundation & Regent Press.
- Nature-Deficit Disorder Gadling. (2014). Retrieved September 15, 2016, from <http://gadling.com/2008/01/19/nature-deficit-disorder/>
- Nisbet, E., & Lem, M. (2015). Prescribing a dose of nature. *Alternatives Journal*, 41(2), 36-39.
Retrieved from <http://proxy.cityu.edu/login?url=http://search.proquest.com/docview/1680992238?accountid=1230>
- Paradise Lost "A Wilderness Of Sweets" - eNotes.com. (n.d.). Retrieved August 15, 2016, from <http://www.enotes.com/topics/paradise-lost/quotes/wilderness-sweets>
- Roszak, T., Gomes, M. E., & Kanner, A. D. (1996). Ecopsychology: Restoring the earth, healing the mind // review. *Alternatives Journal*, 22(3), 27-28. Retrieved from
- Rowland, K. (2012). Katherine Rowland: Whole Earth Mental Health. Retrieved October 27, 2016, Retrieved from <https://www.guernicamag.com/daily/katherine-rowland-whole-earth-mental-health/>
- Take a Hike Youth at Risk Foundation. (n.d.). Retrieved August 15, 2016, from <http://www.takeahikefoundation.org/en/program/about>

The Problem. (n.d.). Retrieved August 27, 2016, from <http://www.cbf.org/ncli/problem/landin>

Sandry, N. (2013). Nature deficit disorder. *Educating Young Children: Learning & Teaching In The Early Childhood Years*, 19(2), 32-34.

Sharma, B. N. (2015). *This Neuroscientist Argues That Addiction Is Not a Disease and the Rehab Industry Is Bullshit* | VICE | Canada. Retrieved October 27, 2016, from http://www.vice.com/en_ca/read/this-neuroscientist-argues-that-addiction-is-not-a-disease-and-the-rehab-industry-is-bullshit

Smothers, L. (2014, April). *Lora Smothers: Going natural in education* [Video file]. Retrieved from <https://www.ted.com/talk/lora-smothers-going-natural-in-education>

Sneep, J. (2007). Ecopsychology: An introduction and christian critique. *Journal of Psychology and Christianity*, 26(2), 166-175. Retrieved from <http://proxy.cityu.edu/login?url=http://search.proquest.com/docview/237244836?accountid=1230>

Stevens, P. (2010). Embedment in the environment: A new paradigm for well-being? *Perspectives in Public Health*, 130(6), 265-9. Retrieved from <http://proxy.cityu.edu/login?url=http://search.proquest.com/docview/849563219?accountid=1230>

Walsh, R. N. (1999). *Essential spirituality: The 7 central practices to awaken heart and mind*. New York: J. Wiley.

Westlund, S. (2015). 'becoming human again': Exploring connections between nature and recovery from stress and post-traumatic distress. *Work (Reading, Mass.)*, 50(1), 161.

Wilson, N. W., Fleming, S., Jones, R., Lafferty, K., Cathrine, K., Seaman, P., & Knifton, L. (2010). Green shoots of recovery: The impact of a mental health ecotherapy programme. *The Mental Health Review*, 15(2), 4-14. doi:<http://dx.doi.org/10.5042/mhrj.2010.0366>

Urban planning and the importance of green spaces in cities to human and environmental health. Retrieved from <http://www.hphpcentral.com/article/urban-planning-and-the-importance-of-green-space-in-cities-to-human-and-environmental-health>

