

**Nature as Co-Therapist: Integrating Nature-Based Group Therapy for Adolescents
Struggling with Anxiety**

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Dedications

This capstone is dedicated to my partner Lloyd. Completing this master's program would not have been possible without his financial and emotional support. Through the stress and seemingly endless demands I managed to overcome over the last two years, he has been a source of unwavering compassion and humour, has helped keep me focused on my goal and has laughed at the silly moments along the way.

Despite the physical health challenges that I experienced during this program, I had a partner who understood what I needed and took the initiative to dig deep in moments where I felt helpless. He continues to motivate me to prioritize my health and well-being, and he challenges me to be the best version of myself. I am a firm believer that my husband models what my future clients, family and friends deserve.

As we prepare to expand our family in the coming year, I am filled with immense gratitude for the partner and teammate I have by my side. Completing this program in order to start my career as a Registered Psychotherapist is a professional goal I have had in mind for over a decade. These goals pale in comparison to bringing life into this world with Lloyd. He will be an incredible dad, and I can barely wait for what lies ahead for us, both professionally and personally.

Abstract

This paper explores how nature-based group therapy can impact adolescents struggling with anxiety. With rising mental health concerns among youth, particularly following the COVID-19 pandemic, there is an urgent need to expand our traditional understanding of sit down talk therapy. The capstone examines various forms of nature-based interventions, including wilderness therapy, adventure therapy, forest therapy, surf therapy, and garden/horticultural therapy through a narrative literature review methodology. The literature review was guided by developmental theory, Kaplan's restoration theory, and the biophilia hypothesis. Findings from recent studies across multiple countries, particularly Norway, South Korea, and the United States, demonstrated that nature-based group therapy can significantly reduce anxiety symptoms in adolescents while also improving overall well-being, social connection, and physical health. The literature review reveals that combining the healing properties of nature with psychotherapeutic techniques can provide an innovative and holistic approach to mental health treatment for youth. However, several limitations to this approach were identified, including accessibility concerns, confidentiality issues, privacy in outdoor spaces, weather constraints, and the need for more Canadian research focused on individual versus group programming for adolescents in natural settings, as well as programming that is possible through the winter months. This capstone contributes to the field of counseling psychology by providing evidence-based support for expanding traditional therapeutic spaces to include outdoor settings, potentially offering more effective intervention options for adolescents with anxiety.

Table of Contents

Chapter 1: Introduction	6
Purpose Statement	6
Theoretical Framework	7
Methodology	8
Contribution to the Field	9
Reflectivity and Positionality Statement	10
Outline of Capstone Project Chapters	12
Chapter 2: Literature Review	15
Rethinking the Traditional Counselling Space	15
Early Work	16
Adolescence as a Challenging Stage of Life	17
Body Image.....	18
Attachment.....	18
Influence of Media.....	19
Fostering Open Dialogue	19
Nature-Based Group Therapy as a Potential Solution	20
Friluftsterapi (Therapy in the Open Air).....	21
Nature Changing our Mood	22
Ecopsychology	23
Grounding in Nature	25

Group Therapy	26
Clear Boundaries.....	27
Different Forms of Nature-Based Group Therapy	28
Wilderness Group Therapy	28
Adventure Group Therapy	29
Forest Therapy	29
Surf Therapy	31
Garden and Horticultural Therapy	32
Getting Back to the Basics	33
Gaps in Research	34
<i>Chapter 3: Holistic Healing Through Nature-Based Group Therapy in Action</i>	<i>35</i>
Discussion	35
Ethical Considerations	36
Cultural Considerations	38
Practical Implications	39
Applied Practices	40
Two-Day Therapeutic Winter Camping Trip Itinerary.....	41
Reflection on Personal Learning	43
Final Overview	45
<i>References</i>	<i>48</i>

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Chapter 1: Framing the Research

Throughout the COVID-19 pandemic, children and youth were amongst the most deeply impacted by the requirement to self-isolate; they were removed from their social lives, extra-curricular activities, and the ability to play freely (Rowley et al., 2022). As a result, screen time increased and health issues were exacerbated due to sedentary patterns, forcing health care professionals, clinicians, and researchers to think outside the box about how we can best support young people to thrive (Jong et al., 2024). We live in a period where children and youth are spending more time in front of screens than ever before, and we are seeing a rise in harmful effects to the physiological and psychological health of our young people. Negative health effects of increased screen time include obesity, depression, anxiety, and inattention (Jong et al., 2024). Song et al. (2018) suggest that simply spending more time in outdoor environments can improve our mental and physical health.

Due to the rise in mental health concerns for youth, there is no better time than now to expand our traditional understandings of therapeutic support. It is my hope that combining the healing properties of nature with the practice of psychotherapy will create opportunities for children and youth to return to more holistic states of health and well-being. Our youth are in immediate need of support in an everchanging social landscape; nature-based group therapy might very well be the key.

Purpose Statement

The purpose of this capstone project is to better understand the effects of nature-based group therapy on adolescents struggling with anxiety. A literature review on how natural space

therapeutic group sessions may enhance outcomes for young clients is significant because it contributes to clinicians expanding the ways we deliver service. Reducing sedentary patterns and creating environments where clients and clinicians can engage in group therapy outside is beneficial to physiological and psychological health (Cooley et al., 2020); it's plausible that this research could contribute to maximizing benefit for the overall well-being of both clients and therapists. It is my hope that natural space therapeutic group sessions become more readily practiced in mainstream contexts, thereby increasing accessibility, normalizing this practice, and reducing stigmatization. The intended audience for this capstone project is clinicians in the field of counselling psychology. The research question explored is: how can nature-based group therapy be beneficial to youth coping with anxiety?

Theoretical Framework

Developmental theory, Kaplan's restoration theory and the biophilia hypothesis are existing theories that provide lenses through which the research is analyzed. The first existing theory that helps guide my research is Kaplan's attention restoration theory (Kaplan, 1995). It was developed by Stephen and Rachel Kaplan and was used to study the effects of nature on our well-being (Kaplan, 1995). This theory posits that exposure to natural environments promotes the recovery of directed attention and reduced mental fatigue (Kaplan, 1995). This theoretical lens leads me to the hypothesis that nature-based therapeutic interventions positively influence mood, overall well-being, stress tolerance and anxiety levels in youth; time in nature reduces mental fatigue and increases attention in adolescence (Kaplan, 1995).

The biophilia hypothesis is also incorporated to further understand the inherent predisposition humans have to interact with and love the natural world (Wilson, 1984). This notion is as relevant for adults as it is for youth (Wilson, 1984). If children are immersed in

natural environments from a young age, they are more likely to seek interactions with nature on a regular basis in their adult life (Cooley et al., 2020). As per classical conditioning, if talk therapy is introduced to youth in an outdoor context, there is a higher likelihood of them seeking out natural spaces in moments of stress and overwhelm. Youth can learn to associate nature with healing, calmness, and general benefits to their health (Jong et al., 2024).

Developmental theories such as Piaget's theory of cognitive development (Piaget, 1936) and Erikson's psychosocial developmental theory (Erikson, 1950) guide this literature review because they are foundational theories that support comprehension of the population. To understand youth who are struggling with anxiety, we must grasp the four stages of development outlined by Piaget (1936) and the eight stages of psychosocial development outlined by Erikson (1950).

Alongside Kaplan's attention restoration theory, developmental theory and the biophilia hypothesis guide this capstone, uncovering new learnings about natural space therapeutic group sessions. These findings have direct relevance to clinical counselling as the research expands possibilities for and the potential of young clients who may be struggling with nature-deficit disorder and mental health concerns, including anxiety (Louv, 2010).

Methodology

This capstone is a narrative literature review. The process of completing it included consulting with my capstone advisor, faculty at City University and other professionals in the field. It also included a deep literature review which involved searching for appropriate evidence-based articles published and peer-reviewed within the last five years. Through organizing the research in a google drive and mind mapping themes in the literature reviewed, I approached and processed each study in a methodical way to ensure that I remained organized

and efficient. I summarized the literature by reviewing articles (in groups of five at a time) based on title, reliability, validity, key themes, limitations, results, and inferences made. In terms of specific inclusion/exclusion criteria for selecting studies, I included studies in the English language only. When I expanded my search to include other languages, the platforms used did not translate effectively, and thus I made the decision to only include English language studies. Approximately 35 studies were analyzed across five different databases including the City University Library, Google Scholar, PsychInfo + PsychArticles, PubMed, and the Psychology and Behavioral Sciences Collection. The proofreading and editing process involved hiring an editor and consulting with my capstone advisor. Finally, I engaged a faculty second reader, who shared their insights and recommendations for improvement regarding the capstone before final submission.

Contribution to the Field

There is a growing body of research that outlines a general understanding that children and youth are experiencing a deprivation from nature at an alarming rate (Louv, 2010). After reading a fascinating book called *Last Child in the Woods* by Richard Louv (2010), my interest in research problems surrounding nature deprivation theory and nature-deficit disorder grew. Louv (2010) suggests that when kids are not exposed to the outdoors and instead spend many hours inside in front of a screen, these conditions contribute to diminished use of their senses, attention difficulties, increased instances of obesity, and higher rates of emotional and physical illnesses. Nature-deficit disorder decreases ecological literacy and stewardship of the natural world (Louv, 2010). Altogether, these problems are connected more broadly to what clinical experts call the devaluing of independent play and the “epidemic of inactivity” (Louv, 2010, p.7). The focus of this capstone and its contribution to the field of counselling is to better

understand how therapeutic group sessions in natural spaces can enhance outcomes for youth struggling with anxiety. Furthermore, different forms of nature-based therapy are explored within the literature review.

Reflectivity and Positionality Statement

My name is Andrea Carter and I am a 31-year-old cisgender, heterosexual, white woman who was raised in an upper middle-class neighborhood by two stable loving parents who helped me develop a secure attachment style (Koh et al., 2020). I am currently a student completing a Master of Counselling degree at City University with the intention of registering as a psychotherapist with the College of Registered Psychotherapists of Ontario upon graduating. I acknowledge that my positionality as a white woman has provided me with privilege that influences the lens I possess as I conduct this capstone. Whilst I have the capacity to be a student, I lack experience conducting lengthy literature reviews and thus rely on external resources and supports to make meaning from the research findings. I recognize the importance of unlearning any ableist, discriminatory, sexist, ageist, and colonial views that I may possess, and instead aim to incorporate a social justice approach in this final research project.

A limitation I have, as a researcher, is that I lack lived experience as part of any marginalized groups; therefore, I may not understand the long-lasting impacts of racism, trauma, discrimination, and oppression. As a student and budding practitioner, my scope is limited and I lean heavily on supports from my capstone advisor, clinical supervisor, more experienced researchers, and clinicians in the field of counselling psychology.

While I might be a new clinician, my relationship with nature has matured over the last 31 years. I grew up feeling the most at home, the most peaceful and the most grounded in natural spaces. Between time spent camping with family, attending summer camps with friends, and

with cousins at the cottage or by myself on a portage, the natural world provided solace and an escape from my fears, anxieties, and discomforts.

I began mentoring younger people in healing through time in nature at 16 years old as a camp counsellor, taking youth at risk out on long canoe trips. This evolved into a passion for guiding wilderness programs where children and youth had opportunities to immerse themselves in a naturally focused world, free from technological distractions; in these places they could build skills, develop confidence, and reach their full potential. In my work with youth, I often shared visualization exercises prior to wilderness canoe trips in order to help them prepare for what was ahead. Imagine you're deep in the woods. The only sounds you can hear are the waves lapping the rocks beside you and the birds flying above. You can feel the wind softly grazing your skin, the cool water on your fingertips, and the smell of wet soil beneath your bare feet. As you inhale a deep breath, the lingering smell of fresh pine trees and smoke from the fire behind fills your lungs, allowing you to exhale toxins and doubt. The afternoon sun hits your face and fills you with warmth as you sit and admire the beauty that existed long before your life began on this earth. You are present and in your secure base because you are where you were always meant to be. As a wilderness guide, I had the incredible opportunity to witness immense growth in young people (and in myself as a young person as well). I witnessed the youth feel a sense of accomplishment that was nothing short of magnificent as they managed to complete a challenging portage, navigated the lands and waters using a compass and paper maps, and feed their peers with dinners cooked over fires.

I've always been curious about utilizing the healing properties of nature in a therapeutic setting. My inclination is to think that natural space therapeutic group sessions can enhance outcomes for young clients, and I am looking forward to the opportunity to learn more about the

direct impact of nature-based therapy for youth. I am also curious to explore the indirect impact of nature-based therapy on parents/caregivers and the clinicians delivering this service.

Outline of Capstone Project Chapters

The next chapters of this literature review focus on how nature-based group therapy can impact adolescents struggling with anxiety. The initial part of the literature review explores the notion of rethinking traditional counselling spaces to include outdoor practices. After a brief overview of early work on nature-based therapy, the population of focus, adolescence, is discussed. The challenges of the teenage years in this time are highlighted in the discussion; from there, nature-based therapy is explored as a potential solution for adolescent stressors, including anxiety.

The discussion reviews recent studies on nature-based therapy in different areas of the world, shedding light on research from Norway, South Korea and the United States of America. These countries implement therapy in nature for adolescents effectively, and are seeing promising results (Carlson et al., 2020; Fernee et al., 2019; Haaland & Tønnessen, 2022, Harper et al., 2021). Later, the notion of nature as a natural mood stabilizer is discussed, demonstrating on the ground evidence from a therapeutic farm currently operating in Connecticut. The potential benefits of grounding in nature will then be explored, highlighting the need for anxious adolescent clients to spend more time outside away from their devices. From there, the notion of nature-based group therapy is explored, highlighting different evidence-based practices including wilderness group therapy, adventure group therapy, surf therapy, forest therapy, and garden and horticultural therapy.

Lastly, the final chapter consists of a summary of recommendations for counselling practitioners working with and supporting adolescent populations. We are seeing a rise in anxiety

and suicide rates amongst teenagers; therefore, suggestions for continuous educational and training opportunities in nature-based group therapy for counselling professionals is needed. In addition to recommendations for practitioners, specific programming ideas are integrated throughout the final chapter. This final section also explores recommendations for counselling professionals in relation to subtopics identified in chapter two, including wilderness group therapy, forest therapy and adventure group therapy. It highlights the importance of addressing adolescent experiences in the counselling space, including working with reluctance and the need to incorporate fun and creativity. It is important to note that this section focuses on enhancing the quality of individualized care for teenagers struggling with anxiety, and explore using nature-based group therapy as a tool.

Definition of Key Terms

Anxiety: An emotion that can be characterized by reoccurring thoughts, consistent worry, uneasiness, restlessness, tension in the body, and somatic symptoms such as increased heart rate (American Psychiatry Association [APA], 2022). The diagnostic and statistical manual considers anxiety to be diagnosable when it causes significant distress or impairment in daily functioning (APA, 2022).

Ecopsychology: A blending of ecological and psychological ideologies that explore the relationship between humans and the natural environment, and the ways they co-exist and interact with one another (Roszak, 1995)

Biophilia: The biophilia hypothesis highlights the tendency for humans to be drawn to interacting, connecting, or closely associating with nature or other forms of life (Wilson, 1984).

Grounding: An evidence-based technique used to assist clients in managing stress and/or overwhelming feelings that involves reconnecting them to their immediate surroundings,

allowing them to feel present, and supporting them to experience felt safety (Carlson et al., 2020).

Earthing: A grounding technique that involves directly connecting human skin with the soil or dirt. Earthing is said to improve mood, help clients to cope with feelings of overwhelm, anxiety and dysregulation. Earthing is commonly practiced as part of nature-based therapy, particularly forest therapy (Carlson et al., 2020)

Social learning: This developmental theory introduced by Albert Bandura explains the influence of motivation, attention, attitude, and emotion on how people observe, model and imitate others in their direct environment, particularly during childhood/adolescence (Bandura, 1977).

Group Therapy: A form of psychotherapy facilitated by one or two therapists that allows multiple clients to share their concerns amongst one another. Group therapy can assist individuals to develop new ideas for tackling positive change, and to gain a sense of relatedness, universality, and hopefulness that they are not alone in their struggle (Yalom & Leszcz, 2020)

Nature-Based Therapy: A type of psychotherapeutic support that involves counsellors conducting therapy with clients in an outdoor setting (Harper et al., 2021). Within the nature-based therapy realm there are several subtypes including wilderness therapy, adventure therapy, forest therapy, surf therapy and garden and horticultural therapy.

Chapter 2: Literature Review

The research included in this review analyzes the complexities of adolescence and nature-based group therapy as a possible mitigator for anxiety in teenagers. Whilst diving into the existing research, it became evident that young people need immediate support. Clinicians are called to enhance their competence as professionals who continually question whether traditional ways of supporting youth through talk therapy are sufficient (Canadian Psychological Association [CPA], 2017, p. 19-20). Clinicians are obliged to modify their approaches to suit the needs of an everchanging social landscape. It seems necessary to recalibrate our way of practicing psychotherapy and to introduce the potential for natural space therapeutic group sessions to enhance the lives of young people experiencing stress and anxiety during one of life's toughest stages. Because adolescence is a notoriously difficult period of life, we as counselling professionals owe it to our youth clients to continue pushing for greater health care (CPA, 2017).

Rethinking the Traditional Counselling Space

Harper et al. (2019) discuss the idea of nature as an ideal partner, guide, and as a place to facilitate therapy. Counselling sessions are traditionally contained to private office spaces with four walls and a closed door, soothing lighting, comfortable chairs, a cup of tea and neutral art displayed on the walls (Harper et al., 2019). While there is no doubt that this setting has provided safety for clients for many years, it is the therapeutic alliance that accounts for 30% of the positive change that can occur for a client (Cormier et al., 2017). In other words, as long as the therapeutic relationship is strong, it is possible that there is flexibility in where therapeutic sessions take place (Harper et al., 2019). Based on the crisis we are seeing in lifestyle illnesses related to sedentary patterns for children and youth, as well as the growing body of research that

highlights the physical and psychological benefits of time spent in nature (Harper et al., 2019), there is no better time than now to explore the impacts of nature-based group therapy for youth.

Early Work

Research into nature-based therapy began in the late 1970s when Ulrich (1984) published a study showing that hospital patients who had a view of a natural environment outside their window recovered faster than patients who had an urban view. Soon afterwards, attention restoration theory gained traction (Kaplan, 1980) and Wilson (1984) published the biophilia hypothesis. Early work in developmental theory by both Piaget (1936) and Erikson (1950) influenced the work of Kaplan (1980) and Wilson (1984) as they explored the impact of nature in healing young people. Since this foundational work was published, there is a growing body of research that highlights the benefits of time spent in nature. This new research explores the potential for nature-based therapy to enhance the lives of adolescents struggling with varying issues including fatigue, anxiety, depression, fear of missing out, and compulsive use of online social media (Dhir et al., 2018). This literature review focuses on the effects of group therapy on youth struggling with anxiety.

Courtney et al. (2022) suggest that when children play in nature they are more exuberant. Outdoor play allows them to become instinctively louder, faster and freer than they would be playing indoors; these experiences are necessary for optimal emotional growth and development (Courtney et al., 2022). In a recent pilot study which used a mixed method approach, Joschko et al. (2023) showed that young people who engaged in nature-based therapy demonstrated a decrease in anxiety scores and improvement in their overall well-being. Furthermore, Jong et al., (2024) conducted a qualitative study exploring the effects of participating in a wilderness programme for adolescent and young-adult cancer survivors. Benefits from the wilderness

programme included an increase in trust and self-confidence, reduced stress levels, personal growth and a newfound connection to others and the natural world (Jong et al., 2024). Both studies focused on group therapy in natural settings, and their results speak to the incredible benefits that can come from youth spending time outside and participating in therapeutic supports simultaneously.

Adolescence as a Challenging Stage of Life

Current research points to rising rates of anxiety in today's youth; adolescence is becoming exceedingly complex, and suicides and mental health issues in teens reached an all-time high in recent years (Rousseau et al., 2020). It is pertinent for innovative solutions be explored now. Determining an adolescent client's suitability for accessing nature-based therapy is an important starting point (Harper et al., 2019). Depending on the clients presenting concerns, nature-based therapy may not always be appropriate (Harper et al., 2019). More and more it is becoming evident that adolescence is a stressful stage of life (Bradley et al., 2020). Hoyt et al., (2020) conducted a quantitative study and determined that early puberty negatively impacts females more than it does males. Girls who hit puberty at a younger than average age are at an increased risk of anxiety, depression, alcohol and cigarette use, earlier sexual activity, and riskier endeavours compared to their peers who hit puberty at the average age or later than average age (Hoyt et al., 2020). In addition, there are links between early menstruation and higher risks of reproductive cancers, obesity, and cardiovascular disease (Hoyt et al., 2020). This phenomenon has been coined precocious puberty, and there are additional risk factors for youth who hit puberty at an age well below the average (Bradley et al., 2020).

For boys, Hoyt et al. (2020) showed a correlation between early puberty and psychosocial benefits such as higher self-esteem and more positive body image. In contrast, boys who go

through puberty later in adolescence are often met with social rejection from peers, feelings of incompetence and symptoms of depression and low mood (Hoyt et al., 2020). However, early puberty in boys does not always result in positive outcomes. Hoyt et al. (2020) also pointed to early puberty being associated with higher rates of aggression, conduct disorder, risky behavior, delinquency, as well as depression and anxiety in boys. Remarkably, there seems to be a correlation between considerably later than average puberty onset and worse mental health outcomes for boys, whereas later than average puberty was found to be a protective factor for girls (Hoyt et al., 2020).

Body Image

Body image is also a major factor to consider during adolescence and contributes to the rise in anxiety levels we are seeing (Rousseau et al., 2020). Perhaps unsurprisingly, Rousseau et al. (2020) indicated that body image dissatisfaction in the Western world is reaching the highest levels we've ever seen, with 50% of adolescent boys and girls reporting that they wish they had a more muscular or a thinner body shape.

Attachment

Healthy development and attachment are also significant factors to consider when we look at this stage in life and consider the prevalence of anxiety. DelPriore et al. (2021) explored the link between father absence and sexual outcomes for both boys and girls. They discovered unique effects on sexual risk taking in girls with absent fathers, but no major association for boys (DelPriore et al., 2021). For girls who grew up with no father figure or a low-quality relationship with their dad, sexual risk taking was more likely. Participants were found to be having sex at a younger age and were found to be more likely to engage in sex without condoms or birth control compared to their peers who grew up with a stable father figure (DelPriore et al., 2021). Early

substance use, dropping out of school, mental health issues such as anxiety, and higher teen pregnancy rates were also identified amongst female participants who did not grow up with a consistent father figure (DelPriore et al., 2021).

Influence of Media

Sexual attitudes, beliefs and behaviors in teenagers are commonly influenced by media (Alexopoulos et al., 2020). In a recent quantitative study, adolescents who were exposed to highly sexual movies were more likely to engage in sexual behaviors outside of romantic partnerships, to demonstrate more permissive sexual attitudes, and to have negative views towards the use of condoms (Alexopoulos et al., 2020). It's concerning to reflect on the effects of media material on impressionable young minds as adolescents seem to turn to the internet and social media for information about sex. Media messages often share rampant errors and biased views that can exacerbate anxiety and be harmful to audiences consuming them (Alexopoulos et al., 2020).

Fostering Open Dialogue

There are protective factors that can be implemented to ensure that adolescents are receiving proper education and services surrounding their mental health and sexuality (Rousseau et al., 2020). Ritchwood et al. (2019) revealed the importance of open, honest, and frequent conversation surrounding a wide range of sexual and mental health related topics, finding positive links to improved mental health, lower anxiety levels and safer sexual practices for teenagers. Caregiver-adolescent communication about sex and mental health is not easy in every family. In many cases, discussions around sexuality and mental wellness are omitted, and these conversations vary amongst ethnic, religious, and cultural groups (Alexopoulos et al., 2020). One thing that remains consistent, however, is the difficulty of being an adolescent in the current

cultural climate. We owe our youth opportunities to talk about their struggles, and what better way to do so than through the implementation of nature-based group therapy?

Nature-Based Group Therapy as a Potential Solution

Nature-based group therapy may be able to mitigate some of the complex stressors for teenagers. In a recent qualitative study conducted in Norway, Fernee et al. (2019) focused on wilderness therapy for teens and identified significant improvement in mental health after adolescents participated in natural space group therapy. In this study, teenagers were provided with a space to ask questions related to their mental and physical health (Fernee et al., 2019). It turns out that tackling mental health and sexuality-related questions for teenagers experiencing stress plays an integral role in contributing to the overall well-being of young people, and results in improved self-esteem and lower rates of anxiety (Punjani et al., 2022).

Given the physiological and psychological benefits of time spent in nature and talk therapy, combining these practices appears to have limitless potential. Evidently, speaking about mental health and healthy sexual practices with adolescents is also crucial for healthy development (Hoyt et al., 2020). It is the responsibility of trusted adults such as educators, coaches, therapists, and parents/guardians in the lives of young people to openly initiate discussions surrounding mental wellness and the effects of puberty and healthy sexual activity for adolescents to engage in their complex daily lives free from guilt, shame, and anger (Punjani et al., 2022). Open conversations with trusted adults contribute positively to adolescents learning to manage their anxiety levels (Hoyt et al., 2020).

Cox et al. (2017) conducted a quantitative study in the UK involving 1,000 participants who took part in exploring the effects of time spent in nature on overall health. This study identified that doses of nature in any form are associated with multiple health benefits, including

lower levels of depression and anxiety (Cox et al., 2017). Furthermore, weekly exposure to nature was positively associated to improved mental well-being (Cox et al., 2017). These findings are significant because they provide evidence to support the incorporation of nature-based techniques into the lives of adolescents struggling with anxiety.

In another recent qualitative study conducted in Norway, Gabrielsen et al., (2019) identified wilderness therapy as having robust outcomes for adolescent participants' mental health. This study noted that positive effects such as improved executive functioning and reduced personal distress were more impactful and longer lasting when youth participants took part in wilderness therapy for several months (Gabrielsen et al., 2019). A term commonly used in Norway, *Friluftsterapi*, was introduced within this research article, and roughly translates to mean 'therapy in the open air' in English (Gabrielsen et al., 2019). Wilderness therapy programs are gaining traction across the world, but Norwegian culture distinctly prioritizes time in nature, with 78% of Norwegians reporting daily engagement in outdoor activities (Gabrielsen et al., 2019). Evidently, Canadians have a great deal to learn from Norwegian culture in terms of integrating outdoor activities into our daily lives; Canadian-based healers and practitioners, specifically, may benefit from incorporating time spent outdoors into psychotherapeutic practice.

Friluftsterapi (Therapy in the Open Air)

There is much to learn from the way other parts of the world do things; in particular, Norwegian practices of nature-based therapy are worthy of consideration. In their qualitative study, Haaland & Tønnessen (2022) explored the effects of *Friluftsterapi* on adolescents in residential care settings. There were three components of "therapy in the open air" identified, including departure from everyday life, facing a different existence, and shared experience (Haaland & Tønnessen, 2022). All three benefits of *Friluftsterapi* were associated with improved

mental outcomes for at-risk youth, including positive emotions, improved self-esteem and social connection (Haaland & Tønnessen, 2022).

Although the sample size was small (8 participants), one aspect of this Norwegian study that is noteworthy is that physical activity in nature was key to improved mental health outcomes (Haaland & Tønnessen, 2022). On top of the psychological benefits, the study also pointed to the many physical benefits that can come from nature-based group therapy (Haaland & Tønnessen, 2022). This is relevant because traditional sit-down therapy may indirectly promote sedentary patterns (Gabrielsen et al., 2018). Nature-based group therapy, on the other hand, combines both psychotherapy and movement in the natural world. In turn, this has the potential to align with a critical consideration in the CPA's code of ethics: maximizing benefits for clients (CPA, 2017).

Nature Changing our Mood

Dr. Warren Corson III is a clinical psychologist and the executive director of Pillwillop Therapeutic Farm in Wolcott, Connecticut, and has been a proponent of nature-based therapy for his entire career (Pillwillop Therapeutic Farms, 2024). As an author, presenter and columnist for the Canadian Counselling and Psychotherapy Association, "Doc Warren" often provides resources and trainings for counselling psychology professionals. His work gained popularity during the COVID-19 pandemic as clinicians were forced to move their practices virtually or outside (Pillwillop Therapeutic Farms, 2024). In Doc Warren's work, he often speaks about the healing properties of nature. More specifically, he describes the naturally occurring components in soil, or the enzymes, that can act as a low-dose all-natural mood stabilizer (Canadian Counselling and Psychotherapy Association [CCPA], 2019).

In Doc Warren's therapeutic work with clients, he speaks about incorporating techniques that utilize the healing properties of nature, such as prompting clients to place their bare feet into

the soil, a technique called “earthing”, which can reduce anxiety and improve mood (CCPA, 2019). Beyond that, Doc Warren also points to the accessibility of nature-based therapy and the fact that these techniques can be practiced outside of session, completely free of charge (CCPA, 2019). Low cost, accessible and practical supports are important ethical considerations in the field of counselling psychology (CPA, 2017). Why not utilize the healing properties of nature in therapeutic settings? There are ample research findings that point to the physiological and psychological benefits (Song et al., 2018), and this work was spearheaded by Indigenous folks centuries ago (Claxton, 2021).

Pillwillop Therapeutic Farms has offered outpatient mental health counselling in an innovative way since 2005, simultaneously incorporating and honouring many traditional Indigenous healing practices (Pillwillop Therapeutic Farms, 2024). Holistic wellness programs designed for both individuals and groups include art therapy, grief workshops, suicide support, meditation, yoga, Tai Chi, gardening, hiking, and passive recreation; these programs have managed to provide high quality care and positive outcomes for many adolescent clients (Pillwillop Therapeutic Farms, 2024). Beyond conducting therapy in a natural setting, the organization offers low-cost or free counselling accessed by many at-risk youth over the last decade who have seen a reduction in their anxiety levels through participation in the services offered (Pillwillop Therapeutic Farms, 2024).

Ecopsychology

Ecopsychology explores the emotional bond between humans and the earth (Roszak, 1995). In the realm of nature-based therapy, ecopsychology is foundational. Though often confused with environmental science, ecopsychology focuses on the benefits that can come from humans interacting with the natural world (Roszak, 1995). Urban environments are known to

affect young people's mental health in a negative way (Buttazzoni et al., 2021). Because childhood and adolescence are such crucial periods for social, emotional, and mental development, Buttazzoni et al. (2021) focused on the urbanization of youth and the effects urban environments have on their bodies and minds. They used a socioecological model to focus on the relationship between youth mental health and urban environments, and results indicated an association between urban living and higher risk of serious mental illness compared to rural living (Buttazzoni et al., 2021). Beyond the field of counselling psychology, the rise in anxiety we are seeing in today's youth is a public health issue which must be considered as the population continues to grow (Buttazzoni et al., 2021).

White et al. (2019) conducted a study at the Centre for Environment and Human Health including 20,000 people. This study determined that individuals who spent at least 120 minutes (or two hours) per week in a natural setting were substantially more likely to report greater psychological well-being and improved health than those who did not engage with nature (White et al., 2019). This University of Exeter study was robust and included individuals across different ethnic groups, races, socioeconomic statuses, professions, and physical ability levels (White et al., 2019). Based on the data gathered, the main findings showed lowered blood pressure, reduced nervous system arousal, enhanced immune functioning, improved mood, reduced anxiety, and increased self-esteem for individuals who spent at least 2 hours per week immersed in nature (White et al., 2019). Ecopsychology studies that focus on the benefits of time spent in nature are foundational in that they assist in the planning of nature-based group therapy. In the case of youth struggling with anxiety, these studies provide a framework for including specific interventions that include nature as the co-therapist in treating anxiety. Grounding in nature is one of these techniques.

Grounding in Nature

Grounding in nature is pure and simple. Similar to grounding techniques utilized in traditional counselling settings, grounding in nature positions our bodies and minds to take in our surroundings and to become oriented in space (Harper et al., 2019). Harper et al. (2019) recommend the use of grounding techniques in natural settings as a way to help adolescent clients decrease feelings of anxiety, to begin to remain present and to incorporate mindfulness practices into their day-to-day lives. Grounding techniques allow clients to feel safe and present in the moment (Harper et al., 2019). They can be highly effective in assisting adolescent clients whose nervous systems are in a perpetual fight or flight response, for those who may be experiencing flashbacks, or for clients who are exhibiting symptoms of panic and anxiety in session or out of session (Harper et al., 2019). On the other hand, it is important to consider and prepare for unpredictable factors in outdoor spaces. While grounding, there is always a chance that a noise disturbance might interfere with a client's ability to experience felt safety. If a client is suddenly triggered by a change in the weather or a loud noise in the distance, it is pertinent to have alternative plans on hand (Harper et al., 2019).

Grounding techniques in group therapy are widely recognized as an effective way for adolescents to experience a decrease in their levels of anxiety and to feel connected to their peers (Carlson et al., 2020). In a recent qualitative study that took place over the course of nine months, nature-based programming was offered at a psychiatric inpatient mental health unit at McLean Hospital just outside of Boston, MA (Carlson et al., 2020). Though there were only 75 participants in the study, grounding techniques in nature-based group therapy were identified as being positively associated to promoting social interaction, use of the senses, care of self and others, as well as a perception that contact with nature can be helpful (Carlson et al., 2020).

Nature-based grounding in a group setting has enormous potential to assist adolescent clients struggling with anxiety. Not only does this practice allow them to feel connected to one another, it also fosters young people's connection to their sense of self, a powerful tool in therapy (Carlson et al., 2020).

Group Therapy

Nature-based group therapy can be an extremely effective way of reintroducing a sense of hope in adolescent clients struggling with anxiety because group therapy helps participants to recognize they are not alone in their struggles (Yalom & Leszcz, 2020). It can be extremely therapeutic, validating and foster a sense of belonging to recognize that others are struggling with similar issues (Yalom & Leszcz, 2020). When Haaland & Tønnessen (2022) explored the effects of nature-based group therapy (friluftsliv) for adolescents living in a residential care setting, participants identified feelings of inclusion, belonging and bonding as a result of taking part in the study. This relatedness and shared understanding allowed participants to feel connected to one another during nature-based exercises; however, participants noted the need for group facilitators to intervene if negativity, rejection, or non-supportive attitudes arose during nature-based sessions (Haaland & Tønnessen, 2022).

In group facilitation, it is important to generate a self-reinforcing loop that includes participants experiencing trust, self-disclosure, empathy, acceptance, and trust (Yalom & Leszcz, 2020). In addition, allowing group members to explore their feelings and experiences without fear of judgment allows them to focus on self-exploration, personal growth, and developing a greater sense of self (Yalom & Leszcz, 2020). This is particularly true for youth who have experienced significant anxiety, trauma and/or attachment wounds in their lifetimes,

unfortunately commonplace experiences for adolescents living in residential care settings (Haaland & Tønnessen, 2022).

In a mixed method study exploring the effects of nature-based group therapy for adolescents in Norway, quantitative post-test data results were considered non-significant apart from two executive functions: both anxiety levels and ‘here and now stress’ data showed a reduction for participants within a year of taking part in nature-based group therapy techniques (Gabrielsen et al., 2018). Qualitative results, on the other hand, showed a significant reduction in anxiety symptoms for adolescent participants (Gabrielsen et al., 2018). Though the study was made up of only 32 participants, qualitative and quantitative results demonstrate promise for future research in the area of nature-based group therapy.

Clear Boundaries

Yalom & Leszcz (2020) discuss the complexity of dual relationships in therapy settings, highlighting the need for clear boundaries to maintain the group's therapeutic integrity. Research highlights the need for facilitators to address this ethical issue proactively to prevent any boundary issues that could arise (Gabrielsen et al., 2018; Haaland & Tønnessen, 2022). For youth in particular, boundaries and group rules must be established at the onset to ensure group safety (Haaland & Tønnessen, 2022). Yalom & Leszcz (2020) also underscore the importance of establishing and maintaining confidentiality to create a safe and trusting environment for group members. In the context of nature-based group therapy, creating a safe and confidential space can become more complex. Gabrielsen et al. (2018) offer specific recommendations on how to do this, an important ethical consideration.

Understanding and respecting diverse experiences is also essential in order to create empathetic and supportive group environments (Yalom & Leszcz, 2020). A nature-based group

leader must aim to create a space in which each member feels safe to share their experiences and encourage participants to be open to learning from the experiences and perspectives of other members (Haaland & Tønnessen, 2022). As Yalom & Leszcz (2020) point out, roles within a group are often culturally defined and can affect how individuals perceive their responsibilities and experiences as group participants. Acknowledging these varying roles and their impacts is vital for a holistic understanding of each participant's experience (Yalom & Leszcz, 2020).

Different Forms of Nature-Based Group Therapy

In the realm of nature-based group therapy, there are several evidence-based approaches that have been implemented across the globe that demonstrate encouraging results in terms of reducing anxiety for adolescents. Amongst the most researched are wilderness therapy, adventure therapy, forest therapy, surf therapy, and garden and horticultural therapy (Harper et al., 2021).

Wilderness Group Therapy

Wilderness group therapy is typically made up of experiential interventions, combining psychotherapeutic techniques and the restorative qualities of nature (Harper et al., 2021). One of the key areas of focus when it comes to wilderness therapy is that there must be a disconnection from technology for clients to feel its full effects (Harper et al., 2021). Fernee et al. (2019) conducted a qualitative study conducted in Norway with 14 adolescents who participated in a unique outdoor group treatment program. This intervention was an example of wilderness therapy (Fernee et al., 2019). Ecological, physical, and psychosocial factors were explored within the study as each participant worked with a designated therapist on their goals while simultaneously engaging in team building exercises and taking part in a 3-day overnight camping trip as a group (Fernee et al., 2019). Though the number of participants was small, results from

this wilderness therapy study indicated a reduction in anxiety, an increase in connectedness to one another, and a comfort in being disconnected from technology for most of the participants (Fernee et al., 2019). It should be noted that the majority of participants found disconnection from devices difficult in the first portion of the study, with benefits being identified once their systems adjusted to their new circumstances (Fernee et al., 2019)

Adventure Group Therapy

Wilderness therapy differs from adventure therapy in a distinct way. While adventure therapy incorporates psychotherapeutic interventions in an outdoor context just as wilderness therapy does, it also includes kinaesthetically engaging clients (Gass et al., 2020). In other words, adventure therapy is made up of adventure activities in group counselling, such as therapeutic camping, compared to wilderness therapy wherein CBT techniques are used outdoors (Gass et al., 2020). Gillis (2021) explored the effectiveness of adventure group therapy, offering outdoor activities to youth participants who were experiencing significant anxiety. Results from this study not only showed a reduction in anxiety for these youth, but it also showed the importance of incorporating games and movement to offset reluctance (Gillis, 2021). Often times youth are referred to counselling by their parents or feel uncomfortable participating in group therapy due to low confidence or social anxiety (Gillis, 2021). Adventure therapy games offer an opportunity for youth to be gently introduced to group counselling, thus increasing the potential for them to participate fully (Gillis, 2021).

Forest Therapy

Forest therapy, beyond any other form of nature-based therapy, has received the most attention in mainstream literature in the last decade (Harper et al., 2021). In particular, forest bathing has gained traction in the last number of years, showing promising results as being an

effective method for decreasing anxiety in young people and more generally for individuals who want to improve their quality of life and overall health (Harper et al., 2021). At a time when urbanization and industrialization are affecting a large portion of the world's population, forest therapy allows for reconnection with the healing properties of nature (Harper et al., 2021).

Forest therapy is based on reconnecting humans to the basic elements we know to be beneficial to our physical and psychological health – it fosters a seemingly severed relationship that humans have to our natural world, and offers a platform for individuals to take in the aromas of the soil, to make contact with the essential oils of the trees and to absorb the preciousness of the natural world which we know to be healing, all while engaging in psychotherapeutic techniques (Harper et al., 2021).

Both the biophilia hypothesis and Kaplan's restoration theory mentioned earlier were critical in the development of forest therapy (Harper et al., 2021). One of the greatest things about forest therapy is that it is simple yet effective, and accessible to everybody (Harper et al., 2021). Harper et al. (2021) show that some of the simple benefits that can come from forest therapy include exposure to sunlight that activates the release of serotonin in our bodies; exposure to sunlight, in turn, prompts us to feel happy emotions (Harper et al., 2021).

In South Korea, forest therapy is being offered to different demographic groups, including youth struggling with anxiety. An organization called the National Forest Healing Complex is leading this work (Harper et al., 2021). More than \$130 million was invested in building the facility and grounds surrounding the protected mountain range at the National Forest Healing Complex (Harper et al., 2021). Within the facility there are two distinct zones, including the central zone and the forest zone. The complex is comprised of a health promotion center, 60kms of hiking trails, several waterfront areas and healing gardens, a meditation center, lodging

for short and long terms stays, and a library of resources (Harper et al., 2021). Based on testimonials from youth clients who have attended the facility, participants expressed being able to experience the healing powers of forest therapy through guided practice with their therapist (Harper et al., 2021). Engaging in psychotherapy in the meditation room and during forest hikes allowed them to experience a state of calm, a reduction in anxiety and boosts to their mood (Harper et al., 2021).

As we witness forest therapy gain traction in the world of academic literature and evolve into evidence-based best practice, it will be important to continue expanding our understanding of traditional counselling spaces to include new practices that will maximize benefits for our clients (CPA, 2017, II. 18-27), particularly if they are reluctant to participate in group therapy, as many teenagers with anxiety are (Gillis, 2021). Forest therapy has the potential to revolutionize the way clinicians facilitate psychotherapy.

Surf Therapy

The inception of surf therapy dates back hundreds of years and is widely recognized as an Indigenous sport (Harper et al., 2021). Surf therapy is typically done in a group context and promotes social learning, life skills, exploration and an element of challenge designed to push clients outside of their comfort zone to foster growth (Harper et al., 2021). Though surf therapy is more accessible in coastal regions of the world, it can be practiced off the ocean in river surfing or with the used of artificial waves (Harper et al., 2021). Research into surf therapy coins the terms ‘blue space’ and ‘blue mind’ which roughly translate to the positive association between nearness to bodies of water and our mental and physical well-being (Harper et al., 2021). Devine-Wright & Godfrey (2018) conducted a longitudinal study exploring the effectiveness of surf therapy on young people. Participants took part in 2-hour surf lessons once

a week for 6-weeks, with an opportunity to continue lessons thereafter (Devine-Wright & Godfrey, 2018). Results from the study showed an increase in confidence and well-being as well as improved mental and physical health for youth participants that were sustained over time (Devine-Wright & Godfrey, 2018).

When it comes to the benefits of surf therapy, an ethical perspective is important. Decolonizing surf therapy as a practice will need to be prioritized based on its rich history within Indigenous communities across the world. Incorporating the 4R's: respect, relevance, reciprocity and responsibility, and acknowledging use of the land for therapeutic practices with clients as stolen land is a vital component of the process. It is critical to model and incorporate the teachings and the knowledge that precedes us regarding the use of nature's elements in so many Indigenous healing practices. It is also important to ensure proper payment and compensation for Elders/knowledge keepers for sharing these practices (Claxton, 2021).

Garden and Horticultural Therapy

Garden and horticultural therapy is known in the counselling psychology field as one of the most accessible forms of nature-based therapy (Harper et al., 2021). It can quickly return clients back to the basics, allowing them to recognize their strengths and see progress in the work they are doing, which can be exceptionally motivating (Harper et al., 2021). It also promotes adaptive and familiar tasks, directed attention and interaction with plant-rich environments; with these practices come psychological comfort and social ease (Harper et al., 2021). Interestingly, gardens easily translate into useful metaphors for clients participating in garden and horticultural therapy: the changing of the seasons, opportunities to nurture and see growth or change, and the focus on life (Harper et al., 2021). Metaphors are often helpful in session with clients,

particularly when working with youth who show reluctance or resistance to participating in the therapeutic process (Gillis, 2021).

Historically, garden and horticultural therapy was offered to psychiatric patients, clients with disabilities and geriatric populations due to its accessibility (Harper et al., 2021). In more recent years, garden and horticultural therapy has expanded and offered to other demographic groups including youth struggling with anxiety, particularly young people who are having difficulty with directed attention due to overuse of social media/technology (Harper et al., 2021). LaRocque (2019) studied teenage participants who had experienced trauma, and reported a reduction in anxiety and an increase in trust and group goal attainment after engaging in group horticultural therapy.

Getting Back to the Basics

There is immense potential for wilderness therapy, adventure therapy, forest therapy, surf therapy and garden and horticultural therapy to gain traction in the world of counselling psychology in the coming years. As technology advances, there is a tendency for individuals to disconnect more and more from each other and from the natural world (Cooley et al., 2020). In today's world, we see an alarming number of anxious youth in immediate need of support, and the answer to supporting them may be simpler than we think: they need to get outside and get their hands dirty!

In the last five years, a growing number of physicians choose to prescribe time in nature for their patients (BC Parks Foundation, 2023). While COVID-19 caused social isolation in our communities, it prompted people to re-evaluate the way they were living their lives, including time spent outside with their friends and family (BC Parks Foundation, 2023). This seemingly obvious yet innovative way of promoting mental and physical wellness was initiated in the

United States and adopted in Canada soon afterwards (BC Parks Foundation, 2023). It is a promising step for Canadian communities that health care professionals are promoting and prescribing time in nature; this practice provides credibility and points to the many benefits of nature-based group therapy for adolescents with anxiety.

Gaps in Research

Interestingly, there is significantly more research on group therapy and wilderness programs occurring in parts of the world outside of Canada, including in Norway, in South Korea, and in the United States. In Canada, we are fortunate to have access to dense forests, natural water sources and stunning landscapes across the country, but winter is certainly not the most accessible season for nature-based therapy to take place. Perhaps it could be with the right outdoor gear and equipment? The Child and Nature Alliance of Canada (CNAC) is an organization that promotes time in nature for the overall well-being of children and youth all year round. Beyond that, they promote nature-based therapy at a time when youth are spending more time sedentary and in front of screens than ever before. While forest schools and outdoor education gain traction, it appears that there are only a handful of organizations in Canada that are beginning to implement nature-based group therapy for adolescents struggling with anxiety. There is room for growth and much to learn from how other parts of the world are practicing nature-based therapy, but there is a gap in recent Canadian research on this topic.

Evidently, these gaps in the research require further exploration. Future research is needed to understand the longitudinal effects of nature-based group therapy on teenagers struggling with anxiety in Canada. It is important to advocate for further research in both urban and rural settings on the impacts of nature-based group therapy for teens struggling with anxiety as our population continues to grow. A call to action is needed.

Chapter 3: Holistic Healing Through Nature-Based Group Therapy in Action

The purpose of this capstone was to better understand the effects of nature-based group therapy on adolescents struggling with anxiety. It was significant to explore how natural space therapeutic group sessions could enhance outcomes for young clients struggling with anxiety. This work may contribute to clinicians coming up with innovative ways to deliver service in a world where the need for mental health support for youth is drastically increasing (Bradley et al., 2020). As was emphasized in the literature, there is potential to reduce sedentary patterns and create environments where clients and clinicians engage in group therapy outside (Ferneer et al., 2019). Many benefits to physiological and psychological health were identified throughout the research on nature-based group therapy for youth struggling with anxiety discussed in chapter 2 (Cooley et al., 2020). Nature-based group therapy can be beneficial to youth coping with anxiety because it has the potential to help improve mood, lower anxiety levels, increase self-esteem, build resilience, foster social connection and help youth to develop coping skills by bringing more mindful and grounded approaches from time in nature to other environments (Buttazzoni et al., 2022, Cooley et al., 2020; Ferneer et al., 2019; Harper et al., 2021; Song et al., 2018).

Discussion

The findings that emerged from the literature review shed light on the enormous possibilities that nature-based group therapy may offer in supporting adolescents with anxiety. There were many learnings about and appreciations for nature-based therapy happening in pockets around the world such as Norway, South Korea, and the United States. Different forms of therapy in practice in these places include wilderness group therapy, adventure group therapy, forest therapy, surf therapy and garden/horticultural therapy. While these research findings were a vital part of the literature review process, it is important to discuss the limitations, constraints,

structural powers and systems that maintain societal inequities or gaps within the current literature. Evidently, there is a gap in Canadian research and organizations implementing nature-based group therapy for adolescents in the winter. There are also significant ethical and cultural considerations to explore.

Ethical Considerations

Confidentiality and privacy in nature-based therapy are key ethical considerations. In traditional psychotherapy settings, privacy is both explicitly and implicitly known (CPA, 2017). In an outdoor context, privacy and confidentiality might not always be guaranteed in the same way as it can be in an enclosed room with four walls and a soundproof door. Harper (2021) presents various ways that nature-based therapists go through the informed consent process virtually or over the phone ahead of time in order to avoid any need for paperwork in the first session. This upfront work also provides the opportunity for clients to discuss any potential discomfort they may have regarding confidentiality or privacy in an outdoor context, and to plan accordingly from there (Harper et al., 2021). If clients are wary of attending their therapy session outdoors, there should always be options and alternatives offered to them to ensure that the dignity of the person is prioritized first and foremost (CPA, 2017)

While each study that was analyzed in this capstone demonstrated the benefits of nature-based therapy, the physical accessibility of this innovative work must also be a key ethical consideration. Changing weather patterns, outdoor topography and exposure to the elements is not always suitable for individuals with physical limitations or disabilities. There may be risks or contraindications associated with nature-based therapy for individuals with physical conditions or neurodivergence because there is less control over the environment where group therapy is taking place. There is potential for youth clients to become overstimulated or to perceive

themselves to be unsafe depending on their pre-existing exposure to the natural world. This will require exploration, with the inclusion of the College of Registered Psychotherapists of Ontario (CRPO) and CPA standards/ethical codes of conduct based on the physical location where the client is accessing services (CPA, 2017; CRPO, 2023). It's possible that nature-based therapy could unintentionally exclude neurodivergent youth or youth with physical disabilities, a potential limitation to consider as this work evolves. Accessible alternatives should always be offered to clients regardless of their physical abilities; this may include the use of off-roading wheelchairs and supportive equipment as needed.

The other ethical question that comes to mind which may be a potential limitation to the practice of nature-based therapy continuing to grow is whether it is profitable? Much of the nature-based therapy world and advocates for nature-based work and outdoor education continue to remain underground, particularly in Canada. It is believed by this community that this is in part due to the work not leading to extensive profitability, which goes against a capitalist society. Fortunately, there are new funding initiatives related to nature-based therapy beginning to take shape, most of which are available on the West Coast of Canada. As mentioned earlier, British Columbia's publicly funded health care system and BC Parks have teamed up to prescribe park passes as a treatment for mental health concerns (BC Parks, 2023). The province of Quebec has also allotted funding towards an initiative called Planet Outdoors that aims to promote outdoor living for all their residents, with a focus on making the outdoors accessible to younger folks (Quebec Adventure Outdoor, 2024). Within the province of Ontario and across Canada, further advocacy for funding and ongoing research to back up the credibility of this work will be necessary in the coming years, particularly as youth continue to suffer in isolation, fueling the need for innovative support (Buttazzoni et al., 2022).

Cultural Considerations

From a cultural and social justice perspective, consideration must be given to affordability and accessibility of outdoor recreation and nature-based therapy for young people. There are barriers to consider in terms of the costs associated with participating in outdoor adventures and activities. Boating, camping and rock climbing for instance all require equipment and resources that many families do not have access to. The other reality is that access to a vehicle is necessary for folks who live in dense urban environments. This begs the question: is participation in nature-based therapy realistic for all youth based on varying socioeconomic statuses or cultural differences? While time in nature is accessible, guided psychotherapy in a natural setting typically has a cost associated with it. The National Forest Healing Complex in South Korea, for instance, is costly to attend for nature-based therapy purposes. In addition, if screen time is the only option for single parents to effectively supervise their kids while working multiple jobs to make ends meet, this must be a consideration in terms of the accessibility of nature-based group therapy practices for youth from varying households.

The other cultural consideration is providing credit where credit is due to Indigenous communities around the world who have been leading the charge in protecting our natural resources for centuries before their land was stolen from them (Claxton, 2021). For example, controlled burns have been a practice that Indigenous communities have implemented for centuries, allowing forests to regenerate naturally and thrive as a result. Since controlled burns have been omitted and de-forestation continues to be prioritized by private funders and federal and provincial governments, uncontrollable wildfires have begun to destroy massive pockets of land across the world, and to displace members of those communities as a result. We have much to learn from Indigenous people who incorporate nature into their daily practice, traditions, and

healing rituals (Claxton, 2021). Truth and reconciliation can only be achieved in collaboration with one another (CPA & Psychology Foundation of Canada [PFC], 2018), highlighting the need to include Indigenous wisdom and healers in the process of supporting youth through nature-based group therapy.

Practical Implications

From a micro perspective, this literature review will have direct practical implications on the professional work that I do with clients. For instance, in my practicum placement I have often thought about the ways in which certain grounding exercises I offer my clients would be improved if I were meeting them outdoors. When I use the “5, 4, 3, 2, 1 grounding technique” I prompt my client to name five things they see, four things they can touch, three things they can hear, two things they can smell and one thing they can taste. It helps them to become oriented to their surroundings and aware of how their body is feeling in the space. When combined with a strong therapeutic alliance, this practice can offer felt safety (Cormier et al., 2017). In a natural setting, grounding techniques would lend themselves to even more enriching full body experiences. For instance, the “5, 4, 3, 2, 1” exercise might include identifying the smell of the pine trees, the sound of the wind, the texture of the leaf they found on the trail, and the taste of the crisp fresh air as they begin to feel enveloped by the beauty of the natural environment that surrounds them. This is one of many therapeutic techniques that could and likely would be accentuated and improved by facilitating group therapy in an outdoor space.

From a macro perspective, it’s plausible that nature-based group therapy for adolescents with anxiety could gain traction in the coming years due to the growing body of research that speaks to its value in counselling psychology. There are several organizations that are beginning to implement nature-based therapy for adolescents across the world. In Ottawa, Canada, the ones

who are spearheading this work are the Child and Nature Alliance of Canada (CNAC), Boundless Community and Youth Programs, and Playful Mindset. These organizations have found a way to effectively integrate nature as the co-therapist for adolescents with anxiety, expanding our understanding of traditional counselling spaces in Canada. Not only has this innovative work provided an opportunity for teenagers to improve their mental well-being, it has also allowed clinicians a healthier space to conduct psychotherapy (Cooley et al., 2020). Reports from nature-based therapists speak of their work being more active and less sedentary, leading to lower rates of stress and burnout as well as increased health benefits (Vujcic et al., 2017). The potential implications of nature-based therapy for adolescent clients with anxiety and for clinicians who work with youth are just beginning to be discovered and spoken about in the research; evidently, it is much needed.

Applied Practices

Based on the research, gaps and limitations identified above, an alternative resource that I propose is a quick guide to nature-based group therapy for adolescents in the Canadian winter. It would include an itinerary with specific therapeutic programming for a two-day winter camping trip, packed with group sessions, fireside sharing, and opportunities for skill building. The intended audience for this quick guide/resource would be clinicians in the field of counselling psychology. This type of resource could contribute to maximizing benefit for adolescent clients and therapists in Canadian winters that are notoriously dark and cold, creating more challenges in terms of achieving more positive mental health outcomes (BC Parks, 2023). Harsh winters do not seem to be a barrier in countries like Norway that effectively implement nature-based group therapy for adolescents struggling with anxiety. Canadian winters are similar to Norway's, with one major difference being that they are typically shorter in length and have greater exposure to

sunlight. Based on the amount of research taking place in Norway related to this topic pointing to positive benefits for clients, nature-based group therapy programs they implemented were used as a reference point in the creation of this itinerary (Fernee et al., 2019). Below is a quick overview at the guide.

Two-Day Therapeutic Winter Camping Trip Itinerary

Packing List: warm base layers (long sleeve shirt/sweater and pants), wool socks, winter jacket, snow pants, gloves, hat, boots, scarf/neck warmer, sleeping bag, and pillow (donated winter gear will be provided anonymously if client is unable to meet packing list requirements)

Day 1 Morning:

- Arrival
- Orientation and Informed Consent
- Group Ice Breakers

Day 1 LUNCH

Day 1 Afternoon:

- Introduction to Nature-Based Group Therapy
- Grounding in Nature
- Setting Therapeutic Goals

Day 1 DINNER

Day 1 Evening:

- Individual Journaling
- Fireside Sharing with Skittle Exercise
- Gestalt Role Playing Exercise

Day 1 SNACK

Day 1 Overnight Sleep in Cabin Accommodations

Day 2 BREAKFAST

Day 2 Morning:

- Understanding our Nervous System Psychoeducational Workshop
- Guided Forest Walk to Practice Engaging in Mindfulness

Day 2 LUNCH

Day 2 Afternoon:

- Debriefing activities
- Good therapeutic endings
- Grounding in nature
- Goal Progress Assessment

Day 2 DINNER

Day 2 Evening:

- Wrap Up and Pack Up
- Final Sharing Circle
- Take-Away Resource Package and Identification of New Learnings
- Departure

Day 2 TAKEAWAY SNACK

This outline of an applied practice demonstrates that natural space therapeutic group sessions have the potential to become more readily practiced through the winter months and all year round. If they become more mainstream in the field of counselling psychology, this may increase accessibility and normalize nature-based group therapy for adolescents, in turn reducing

stigmatization. Reluctance to participate can be common for adolescent clients, thus reducing stigma at every opportunity is crucial (Buttazzoni et al., 2022).

Reflection on Personal Learning

It is my belief that the findings from the academic research on nature-based group therapy for adolescents with anxiety just scratch the surface. In doing a deep dive on the existing literature from the last five years throughout the capstone writing process, it appears that the potential benefits for clients are substantial and profound. When clinicians incorporate nature as their co-therapist in practice with adolescent groups who are struggling with anxiety, not only is it an innovative way to perform therapy, but it also shows promising results. I am a firm believer that the research available right now is just the tip of the iceberg. Particularly with the recent release of new AI technologies, I fear that excessive screen time/technology use will increase, leading youth to further isolate from one another, potentially leading to worsening mental health for adolescents. I look forward to the world of nature-based group therapy gaining traction in the coming years to offset some of these potential harmful effects.

In terms of my personal learning, a part of me feels that this research has reinforced what I already knew about the healing properties of nature with teenagers dating back fifteen years when I facilitated multi-day canoe trips for youth at risk. On the other hand, this literature review has opened my eyes to the countless techniques that can be used to conduct nature-based group psychotherapy that have shown promising outcomes for adolescent clients who are struggling with anxiety. Beneficial outcomes include but are not limited to improved mood, lower stress levels, and physical health benefits (Song et al., 2018).

While I may have understood the potential benefits that can come from incorporating nature into our day-to-day lives over the last couple decades from an anecdotal perspective, having the

formal research to back it up increases my credibility and competence as a practitioner (CPA, 2017). As I prepare to begin my career as a Registered Psychotherapist and integrate nature-based therapy techniques into my work with clients, it will be critical for me to lean on the findings of this capstone and to continue to review upcoming evidence-based best practices (CPA, 2017)

The other area of personal learning that took place for me through the capstone writing process was the importance of practicing what I preach. While reading and learning about the research that explores the use of nature-based group therapy for youth with anxiety I picked up on themes within the literature that shed light on the notion that simply spending time in nature is beneficial to our mental and physical health (Song et al., 2018). Reminding myself of these evidence-based practices was incredibly important in the thick of the capstone writing process. Though I am mildly ashamed to admit this, at times I find it easier to provide others with tools and strategies to help them in their wellness journey than I do in prioritizing those strategies for myself when I am under stress. With the amount of reading, writing, re-writing and reviewing that was required during the capstone, I found myself becoming discouraged at the lack of progress I would make at times. I started to be more intentional about taking regular mindfulness breaks outside during the second half of my writing process, and it made a world of difference in terms of my productivity. When I arrived back to my desk with a clear mind and new ideas after time spent away and immersed in nature practicing grounding exercises outside, it was reassuring to experience that these practices work. I believe that a significant part of being an effective psychotherapist is that what we preach to clients must be part of our regular self-care practices as well (CPA, 2017).

Final Overview

In summary, there are a number of key findings that came out of this literature review on the effects of nature-based group therapy for youth struggling with anxiety. In terms of what the research indicates, the positive impacts on adolescent mental health that were identified include significant reduction in anxiety levels and “here and now stress”, improved mood, enhanced self-esteem, higher confidence levels, better executive functioning, increased social connection and a sense of belonging and the development of healthy coping mechanisms. As for physical benefits, the research on nature-based therapy for youth with anxiety demonstrated a reduction in sedentary behavior leading to improved physical health through movement, enhanced immune system functioning, lowered blood pressure and better sleep patterns when aligned with natural light cycles.

There were a number of different forms of nature-based therapy that were highlighted including wilderness group therapy, adventure group therapy, forest therapy, surf therapy and garden and horticultural therapy. Wilderness group therapy focuses on experiential interventions, requires disconnection from technology and is known for combining psychotherapeutic techniques with nature’s naturally restorative qualities. Adventure group therapy incorporates kinesthetic engagement and structured outdoor activities and is recognized as being an effective approach for reducing reluctance in teens because it is often fun. Forest therapy promotes grounding and mindfulness in nature, emphasizes sensory connection with natural elements, and utilizes natural aromatherapy from soil and trees to increase mood. Surf therapy leverages the healing properties of “blue space”, is known to help clients build confidence through skill development and encourages social learning and connection to others. Finally, garden and horticultural therapy provides clients with visible progress and opportunities for feelings of

achievement, is the most accessible form of nature-based therapy and lends itself to the use of natural metaphors in group counselling with clients.

There were many ethical and cultural considerations discussed in terms of the implementation of nature-based therapy for adolescents struggling with anxiety. These ethical considerations include but are not limited to privacy and confidentiality in outdoor settings, physical accessibility needs, cost and socioeconomic barriers and weather-related safety concerns. In terms of cultural considerations, this capstone acknowledged Indigenous knowledge on nature-based therapy and healing practices preceding any recent research and the importance of incorporating Indigenous voices, traditions, and wisdom as we work towards truth and reconciliation. Consideration for any socioeconomic or cultural barriers to accessing service and ways to offset those obstacles for adolescents was also discussed.

Finally, in terms of best practice recommendations for clinicians when it comes to nature-based therapy for adolescents struggling with anxiety, the importance of clear boundary setting in group contexts, a thorough informed consent process, regular assessment of therapeutic progress, weather appropriate planning and equipment, alternative indoor options as needed and the integration of grounding techniques in nature were all discussed. In addition, safety planning was explored including maintaining appropriate client to therapist ratios, developing emergency response protocols, and ensuring proper equipment and resources for all youth participants.

Since nature-based group therapy practices are just beginning to get off the ground in Canada, there is room for future planning and long-term goals to be set. In terms of research, there is a gap in long term effectiveness studies and Canadian specific research because most of the recent studies took place in Norway, South Korean and the United States. Comparative studies between traditional space group counselling versus nature-based group therapy would

also help in the development of effective interventions and programming for youth struggling with anxiety. In terms of advocacy, increased funding for nature-based programs, regulatory bodies recognizing nature-based practices as meeting standards, and equitable access initiatives for physical or socioeconomic barriers were also discussed. In addition, there is room for growth around winter-specific programming, options for nature-based therapy within urban settings, and accessible adaptations so every community member can thrive.

In terms of my own professional development, I intend to seek specialized training in nature-based therapy and stay up to date with developments in research. I believe it will also be important to build my network of nature-based therapy practitioners in order to share evidence-based best practices and collaborate while maintaining client confidentiality. Finally, continuing to grow in my cultural competency will need to be prioritized. As a non-Indigenous person entering the field of counselling psychology as a Registered Psychotherapist, I intend to always bring humility and collaboration to my future work in nature-based therapy with clients.

I am left feeling encouraged by the research exploring nature-based group therapy for adolescents with anxiety. While there is plenty of work to be done, this literature review has fostered a sense of hopefulness for what is ahead. This is just the beginning of something innovative and promising that has the potential to positively impact our youth.

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