

**“It helps me to be more aware and connected to my body when I spent so many years  
trying to disconnect”: A qualitative study on the effect of time spent in nature on eating  
disorder recovery and maintenance**

by

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We acknowledge and respect the lək̓ʷəŋən peoples on whose traditional territory the university  
stands and the Songhees, Esquimalt, and W̱SÁNEĆ peoples whose historical relationships with  
the land continue to this day.

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## Abstract

Eating disorders (EDs) are one of the deadliest mental health disorders (Walsh, 2017) with a high relapse rate (Berends et al., 2016) and complex treatment needs (NCCMH, 2004; NICE, 2020). One of the most common experiences of people suffering from EDs is a lack of embodiment and disconnection from their bodies (Piran, 2017; Cook-Cottone, 2020). As such, increasing positive embodiment and the positive relationship with one's body is a means to help support those with EDs towards recovery (Cook-Cottone, 2020). Time spent in nature has been shown to increase embodiment (Monteleone et al., 2017; Lumber et al., 2017) as well as have positive benefits on human health in general (Barton, 2009; Stigsdotter & Grahn, 2011; Sahlin et al., 2014). The current study examined the effects of time spent in nature on ED recovery in a sample of seven women residing in North America. Participants shared that spending time in nature helped them appreciate and care for their bodies as well as helped them to calm their anxious minds, providing a foundation on which to build and maintain recovery from their ED. Participants also noted that being out in nature helped them feel connected to other people and other beings, leading to feeling a sense of belonging and a part of something bigger than themselves. They shared that nature was a non-judgemental space where all bodies were important and they were accepted just as they are. The findings from this study have implications for ED treatment, suggesting that spending time in nature may support ED recovery and maintenance. Nature may be an accessible and affordable foundation for people suffering from EDs to build recovery, find peace, experience positive embodiment, and connect to something larger than themselves.

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Indigenous Hosts who have and continue to steward and love this land. I hope this research creates more love of land and an understanding of the Earth's amazing capacity to heal.

## **Chapter One**

### **Introduction**

Eating disorders (EDs) of adolescence and adulthood (i.e., Anorexia, Bulimia, Binge Eating Disorder, Other Specified Feeding or Eating Disorder) are characterized by negative body image, a desire to lose weight, and disordered eating behaviours (National Eating Disorders Association, n.d.). These behaviours can include restriction of food intake and/or binge eating that may be accompanied by compensatory behaviour (e.g., vomiting or excessive exercise; APA, 2013). All three primary EDs involve symptoms related to behaviour, the body, emotions, and cognitions (Cook-Cottone, 2020). Anorexia nervosa (AN) is exemplified by a constant pursuit of thinness through behaviours such as food restriction, over-exercising, purging, and an intense fear of becoming fat (APA, 2013). Bulimia Nervosa (BN) is characterized by repeated episodes of binge eating with compensatory behaviour, such as vomiting, to prevent the ingested food from affecting body weight or shape (APA, 2013). Binge Eating Disorder (BED) is typified by an experience of feeling out of control while eating and eating past the point of being full, but does not generally have compensatory behaviour (APA, 2013). EDs also commonly have comorbidities with other issues, such as mood disturbance, anxiety disorders, obsessive-compulsive disorders, trauma- and stressor-related disorders, and substance abuse (Walsh et al., 2013).

### **Eating Disorder Prevalence**

EDs affected approximately 1 million people in Canada in 2020 (NEID, 2020). Women are disproportionately affected by EDs, with the prevalence of AN three times higher and BN ten times higher among women compared to men (NEDA, 2014). In a 2011 study on the U.S. population, Neumark-Sztainer et al. found that 59% of young adult women dieted, 21%

recommended extreme weight-control behaviours to others, and 14% reported binge eating. In a more recent report, Santomauro et al. (2019) reported that, with the inclusion of BED in the Diagnostic and Statistical Manual of Mental Disorders (DSM, 2013), the global prevalence of ED was shown to be four times higher than previously thought, even without including other EDs, such as pica, avoidant-restrictive food intake disorder, and rumination disorder. Zipfel et al. (2022) suggest that EDs are as prevalent as substance use disorders.

Additionally, studies published during the beginning of the COVID-19 pandemic warned of increased risk for ED prevalence and relapse (Rodgers et al., 2020; Scharmer et al., 2020). This was confirmed by Zipfel et al. (2022) who reported that the overall incidence of EDs increased by 15.3% in 2020 during the pandemic in comparison to previous years. Zipfel et al. (2022) also reported that this increase occurred solely in women and girls, and primarily for AN. In a meta-analysis of 75 studies, Schneider et al. (2023) reported an increase of body image and weight concerns and decreased self-esteem over the pandemic, despite some positive outcomes such as increased time for self-care and reflection and more connection with family. However, this meta-analysis found very few studies looking at marginalized populations and those with lower social privilege. As such, it is unclear how the pandemic affected people suffering from EDs who have been and are being marginalized (Schneider et al., 2023). During the pandemic, researchers found that factors such as isolation, higher social media use, and overall stress influenced the increase in EDs worldwide (Rodgers et al., 2020; Scharmer et al., 2020).

Recovery from an ED is an ongoing process, and a recent review of EDs indicates that the majority of patients may never achieve full and lasting recovery (D'Abundo & Chally, 2004; Perey & Cook-Cottone, 2020). According to Lock et al. (2015), AN can last more than five years

in 7-15% of individuals and has the very high mortality rate of 5-18% (APA, 2013; Walsh, 2017). As such, finding ways to prevent and support the healing of EDs is essential.

### **Current Recovery Models**

Research on ED recovery is a constantly growing field. Researchers reporting on recent updates in the ED field discussed the idea that the Western world is an “eating disorder society” because food is either medicalized or moralized (González & Soto-Casás, 2023). They comment on the need to change societal beliefs around food and weight as part of recovery. Kenny & Lewis (2023) support this through their recovery framework that approaches recovery as a non-linear process unique to each individual. They also argue that recovery outcomes are dependent upon the context of systems larger than the individual, such as systems of oppression (e.g., White supremacy, patriarchy, homophobia, transphobia, weight stigma), which may make recovery and access to ED support harder for some in comparison to others to be afforded more privilege.

Due to the complexity of recovery, many studies have examined various theories and treatment methods. Cook-Cottone (2020) discusses a few approaches: for AN, there are behavioural approaches for weight restoration, family-based treatment, the Maudsley Model of Anorexia Treatment for Adults (i.e., Zipfel et al., 2015), psychotherapy, and pharmacological treatments; for BN, there is Cognitive Behavioural Therapy (CBT; Beck & Simos, 2012) with a BN focus (Fairburn, 2017), Interpersonal Psychotherapy (Fairburn et al., 2015), guided self-help programs, and family-focused therapy for BN; and for BED, there are self-help programs and cognitive-behavioural therapy (CBT) for BED (NICE, 2017).

Walsh et al. (2015) discussed the general process for recovery from each of the primary EDs. First, Walsh et al. (2015) consider AN and other restrictive EDs. Before further treatment, there must be medical stabilization, as many treatment centres require clients to reach a certain

weight and nutritional health before beginning any psychological treatment. Once physically rehabilitated, the psychological treatment will start with behavioural management to ensure the client maintains a healthy weight and nutritional level. Alongside this, there will be some psychotherapeutic approaches, such as family-based treatment, CBT, and exposure and response-prevention treatment, the Maudsley approach, and psychopharmacology.

Second, Gianini et al. (2015) discussed BN and BED. The primary goal is to normalize the eating behaviour and to reduce the overvaluation of body shape and weight. Psychological treatments for BN and BED are CBT (Beck & Simos, 2012), Interpersonal Psychotherapy (IPT; Murphy et al., 2012), psychopharmacology, Dialectical Behaviour Therapy (DBT; Linehan, 1993), and Integrative Cognitive-Affective Therapy (ICAT; Wonderlich et al., 2008). Self-monitoring is an important aspect of the CBT approach, which is managed via electronic applications and by following a prescribed regular eating pattern (Gianini et al., 2015). IPT focuses on identifying current interpersonal problems perpetuating their EDs, such as issues with self-esteem or loneliness (Gianini et al., 2015). Psychopharmacology is used in conjunction with psychotherapy and is seen best as adjunctive (Gianini et al., 2015). DBT was created to treat borderline personality disorders (Linehan, 1993) but has been adapted for use with BN and BED (Safer et al., 2009). DBT focuses on mindfulness skills, distress tolerance, and emotion regulation skills (Gianini et al., 2015). ICAT is a brief, present-focused therapy similar to CBT and DBT in its manualized regularity of meals and snacks but it also includes working on interpersonal patterns that affect eating behaviours (Gianini et al., 2015).

### **Embodiment**

A recent development in ED recovery is the concept of embodiment and the benefit of seeing the body as a resource for recovery itself (Cook-Cottone, 2020; Piran, 2017). By

connecting with the body and attuning to the signals and cues given by the body, it is possible to rebuild the broken connection between mind and body and begin to trust and love the body outside of the objectifying perspective of the current Western culture (Cook-Cottone, 2020). ED recovery support has been shown to positively benefit recovery and recovery maintenance through embodied practices and promoting inner wisdom (Cook-Cottone, 2020; Cook-Cottone & Douglass, 2017; Perey & Cook-Cottone, 2020). The concept of embodiment and its researched benefits in supporting ED recovery is discussed further in Chapter 2 of this thesis.

Yoga and equine therapy have also been explored as ways to connect with the body in an embodied way (Cook-Cottone, 2020; Cook-Cottone & Douglass, 2017), and recently time spent in nature – both active and inactive time – have begun to be explored as a possible way for people to heal from a wide range of mental health issues, including EDs (Corazon et al., 2018; Carlson et al., 2020; Haluza et al., 2014; Jepsen Trangsrud et al., 2020b; Jepsen Trangsrud et al., 2021; Joschko et al., 2023). It is from these previous studies that the current thesis stems.

## **The Current Research**

### **Purpose of the Study**

The purpose of this study was to explore how time spent in nature is experienced by women who have suffered from EDs. Since EDs are very common (NEID, 2020) and are some of the deadliest mental health issues today (Walsh, 2017), it is important to address how it may be possible to help people with EDs support themselves in their recovery every day. Nature has been shown to support human wellbeing (i.e., Martin et al., 2020; Laforteza et al., 2009; Pritchard et al., 2021) and can be a relationship built into a person's ongoing everyday recovery practice. This area of interest is just beginning to be researched, with only three studies in a Scandinavian context published in extant research.

## **Why Nature as a Recovery Support?**

There are a few theories that work to explain why humans have an affinity for natural spaces and why being in nature has many positive effects on people (i.e., concentration, mood, and lowered stress levels; Barton, 2009; Sahlin et al., 2014; Stigsdotter & Grahn, 2011). The first is the biophilia hypothesis. Since humans evolved in nature, the biophilia hypothesis states that humans are drawn to natural life and have an innate love of life and nature (Kellert & Wilson, 1993). Topophilia, or a “love for places,” is defined as all of a human’s affective ties with the material environment (Tuan & Tuan, 1974). This love of place could show up in our initial responses to seeing a beautiful place or the tactile sensations of feeling air, water, or earth. Or it can show up as our feelings that are attached to a place because of associated memories and histories (Tuan & Tuan, 1974). This love for a natural place can be built through a relationship with a place that creates cherished memories. As such, this healing relationship between humans and natural space can be a source of comfort and a place of rest and recovery. Tuan and Tuan (1974) also touch on how human wellbeing responds to nature. They provide examples of how most humans experience a joyousness about life in general at some point in their life as well as how this wholeness is connected to experiencing the world and will most often include a natural environment.

Kaplan’s Attention Restoration Theory (ART; 1995) demonstrates how natural environments can be restorative, prevent fatigue and stress, and help heal from stress. ART suggests that being in nature engages a soft attention and restores cognitive abilities after a period of intense focus like prolonged computer work or reading (Kaplan, 1995).

In addition to these theories that suggest nature’s restorative capacities, nature is also fairly accessible. However, this can be debatable if one lives in the concrete jungle of an

industrialized city (which primarily is populated with people who are marginalized, Benton-Short & Short, 2013). However, a tree, a shrub, or an insect is still nature with which one can be connected. Spending time in nature is also financially viable as city parks are free and plants can be grown from free plant clippings. As a final note, a relationship with nature is a practice that can be built into day-to-day living. Given that ED recovery is now being understood as a lifelong process (i.e., Cook-Cottone, 2020; Davidson & Roe, 2007; Topor et al., 2011; Jepsen Trangsrud et al., 2020b; Pettersen & Rosenvinge, 2002), this supportive daily relationship would easily fit into this lifetime healing.

### **Researcher Positionality**

A statement of positionality is a statement of social location with a practice of reflexivity in relation to the research at hand. Stating one's positionality is a practice taught in qualitative research because knowing what we personally are bringing to the research can help us critically view our data while being aware of our biases, assumptions, and lived experiences (Jacobson & Mustafa, 2019). Historically, ED research has focused primarily on thin, middle-to-upper class, White girls in their teens or early 20s (NEDA, 2014). Until recently, research has only attended to those who do fall into White Eurocentric identity ideals, such as being White, heterosexual, cis-gender, young, and able-bodied (Cook-Cottone, 2020). However, recently researchers began to see EDs as something other than a "White girl's" illness (NEDA, 2014). I was raised as a White girl in a primarily White town. As a cis-gender, heterosexual settler and "good white girl" (Allen, 2020, p. 380), I was given the privileges and affordances these identities are shown in White settler nations (see Allen, 2020).

In studying how nature can support the recovery of EDs, I situate myself as a member of the community of focus. I grew up closely entwined with nature and was highly influenced by

the Western Eurocentric beauty ideals (i.e., White, thin; Cook-Cottone, 2020). Around age 17, I developed severe disordered eating practices that lasted a decade. I turned to nature and being present in nature as a means to facilitate my own recovery. I continue this practice. Therefore, I enter this study with the experience of disordered eating and turning to nature for recovery.

Although I never received treatment and my ED was unknown to all, I know that my identities would have permitted to me receive help if I had needed it. In contrast, people who are marginalized are chronically under-served and ignored in ED treatment (Becker et al., 2009; Walcott et al., 2003).

To attend to these knowledge gaps, I began the research process by being transparent about my experiences and my positionality (Pringle and Booysen, 2018). As suggested by Milner (2007), I reflected on myself, how I know what I know, and subsequently, reflected on myself in relation to others, so that I might push research and counselling towards social justice issues and ensure the presence of narratives as well as counter-narratives. To keep my ignorance and privileged position on top of mind, I pull on a quote from Elder Dave Courchene that was included in Truth and Reconciliation Commission: “When you talk about truth, whose truth are you talking about?” (TRC, 2015, p. 12). Milner (2007) also discusses truth as subjective: “Truth, or what is real and thus meaningful and “right,” for researchers and participants, depends on how they have experienced the world” (p. 395). To shift the gaze from me as a researcher, I focused on these two quotations as a guide to keep me attending to the truth of the people that I am serving with my research. With this, Milner (2007) would get me to ask, “How will I know?” (p. 395). For this, I used member checks to ensure that the participants are confident I am representing their voices correctly.

## **Overview of Thesis**

The remainder of this thesis is made up of four chapters and five appendices. Chapter 2 covers the published literature important to this research study. It summarizes literature related to ED risk factors, symptomatology, and prevalence as well as the current researched benefits of time spent in natural environments. It discusses the current nature-based practices occurring and the literature that has explored the effects of time in nature on ED recovery. Chapter 3 describes the methodology followed for this study. It explains participant demographics, ethical considerations, chosen methods and analysis as well as the process of analysis. Chapter 4 describes the results of said analysis. The final chapter (5) includes a discussion of those results and how they can be placed within the current knowledge and literature of the field. It also includes a discussion of limitations and directions for future research.

## **Chapter Two**

### **Literature Review**

“Persons, regardless of nationality and culture, seem to prefer natural environments with water features, large old trees, intact vegetation and minimal human influence (Maller et al., 2005).”

As quoted in Jepsen Trangsrud et al. (2020b, p. 11).

### **Introduction**

The number of studies looking at the healing and restorative effects of nature on human wellbeing is increasing, and this study adds to the limited existing literature by extending the focus to supportive recovery effects of nature on those suffering from EDs. In past research, nature has been shown to help with decreases in negative thought rumination (Korpela et al., 2018), stress reduction (Yao et al., 2021), and an increased connection with and appreciation for one’s body, which are all common experiences related to EDs (APA, 2013). Even further, a common symptomatology of EDs is a lack of embodiment or feelings of connection with one’s body (Piran, 2017; Cook-Cottone, 2020). Embodiment is also heightened while spending time in nature (Monteleone et al., 2017).

To position the current study within broader literatures on nature, EDs, and ED recovery, this chapter will present a review of a number of relevant topics. First, the chapter reviews literature on EDs risk factors and the theoretical standpoints that underpin this thesis. Second, the chapter reviews clients’ personal experiences of recovery. Currently, there is minimal research on clients’ experiences from the perspective of the clients themselves so this will be combined with common observations and research around those suffering from EDs. Third, this chapter overviews embodiment theory and how embodiment has been approached in the past as well as its current application to the research on ED recovery. Fourth, this chapter turns to a discussion

on nature. Past and current research on the effect of time in nature is broad and an emerging field, as such, only the effects that are relevant to EDs are discussed. For example, since depression is often found to be comorbid with EDs (APA, 2013), the effects of nature on depression will be explored. The suggested implication is that if time in nature can support and ease the struggles associated with EDs then spending time in natural settings can improve ED symptoms. Fifth, the chapter overviews current nature-based practices occurring around the world and the major studies that have previously been published that have examined the effects of time in nature on ED recovery. Sixth, to address ongoing societal issues that relate to the creation of EDs and accessibility to nature, the chapter closes with a brief discussion about how accessing natural space in Western society has historically been difficult for women. This is followed by a brief discussion on how positive embodiment can be a radical act for women in Western society who have been socialized to strive for unrealistic beauty standards.

## **Eating Disorders in Women**

### **Common Characteristics of Eating Disorders**

EDs have a number of unique characteristics and effects associated with those who suffer from them, some of which are discussed here. Primarily, EDs are characterized by body image disturbance, including body weight and shape dissatisfaction, and sufferers often demonstrate a skewed perception of their own bodies (Monteleone et al., 2017). Often, EDs replace a need for control that is lacking elsewhere in the individual's life (Cook-Cottone, 2020). As such, perfectionism has been related to, and found to be a precursor to, certain phases of some EDs with the strongest associations being between restriction and purging in women (Forbush et al., 2007). As said by a participant in a study by D'Abundo and Chally (2004): "I had power over nothing in my life, but I could control that number [my weight]. That's the one thing I truly had

power over” (p.1099). The need for control is so great that EDs become a life line for the affected person. Cook-Cottone (2020) likened an ED to a floating log in a raging river that saves one’s life, initially. The person then does not trust the river and remains glued to the log even when the raging torrent of water has calmed and diminished. Those suffering with EDs struggle to let their ED go because they view it as the only thing that will keep them going (Cook-Cottone, 2020).

Those with EDs face high levels of shame (Cavalera et al., 2016) and guilt (Bottera et al., 2020), especially for those with BN and BED (Jepsen Trangsrud et al., 2020a). Nechita et al. (2021) found a medium to large association between EDs and shame. Shame was also found to predict symptoms of AN (Troop & Redshaw, 2012). Furthering this, people with EDs often have high rates of self-injurious behaviour (Paul et al., 2002) and high rates of suicide (Crow et al., 2014), which increases the mortality rate of people with EDs. EDs have also been associated with alexithymia, which is the difficulty of “identifying and describing one’s own emotions” (Brewer et al., 2016, p. 1). Alexithymia is connected to a lack of interoception, defined as the ability to interpret physical signals from the body, such as hunger signals or heart rate (Brewer et al., 2016). This inability to identify and accurately label affective experience as well as emotion-processing deficits, characterize the ED population (Becker-Stoll & Gerlinghoff, 2004; Bydlowski et al., 2005).

### **Common Risk Factors for EDs and Theoretical Underpinnings**

At present, the most comprehensive and clear means of describing common risk factors for EDs is through several theoretical models that inform this thesis. First is the sociocultural model of disordered eating (i.e., Fitzsimmons-Craft et al., 2012; Fitzsimmons-Craft et al., 2014). Second, the theory of embodiment (Piran, 2017), discussed previously and further discussed

below. Third, feminist theory as it relates to the place of women in outdoor activities. Fourth, feminist theory as it relates to diet culture and how women are socialized to eat and look.

### **Sociocultural Model of Disordered Eating**

The sociocultural model of disordered eating (e.g., Fitzsimmons-Craft et al., 2012), which was updated to an elaborated model in 2014 (Fitzsimmons-Craft et al., 2014), shows how a number of factors have direct and indirect relationships with ED behaviour. The first of these factors is a pressure for thinness, which is a pressure on women in Western society to have an ultra-slender figure (Striegel-Moore et al., 1986; Malkin et al., 1999; Sypeck et al., 2004), called the “thin ideal” (e.g., Fitzsimmons-Craft et al., 2012). The second is the internalization of the thin-ideal, which can be described as “the extent to which an individual cognitively ‘buys into’ defined ideals of attractiveness and engages in behaviours designed to produce an approximation of these ideals” (Thompson & Stice, 2001, p. 181; Thompson et al., 1999). In Western society, women have been socialized through media, culture, and relationships to see the preferred body as this thin ideal (Cook-Cottone, 2020). The third factor is physical appearance social comparisons and is informed by social comparison theory (Festinger, 1954), which holds that humans have a natural drive to be aware of their progress and standing in society as compared to other humans. In Western culture, one’s appearance is a measure of one’s social standing, and thus humans will compare their appearance to those who are deemed more attractive or less attractive than them by society (Fitzsimmons-Craft et al., 2014). Within the social comparison process, there is upward comparison where one compares themselves to someone who is in so-called higher standing (e.g., someone who is thinner and matches to the beauty ideals more than oneself) and there is downward comparison where one compares themselves to someone who is in so-called lower standing (e.g., someone who is larger bodied and does not match the beauty

ideals more than oneself; O'Brien, 2009). The fourth factor in the sociocultural model of disordered eating is body surveillance, which is seen as a result of self-objectification or viewing one's body as an object to be seen by others instead of experiencing oneself in one's body (McKinley & Hyde, 1996; Cook-Cottone, 2020). Body surveillance, a behavioral manifestation of self-objectification, was first operationalized by McKinley & Hyde (1996) and manifests as a consistent and prevalent behaviour of body checking (e.g., checking the flatness of one's stomach in the mirror or the prominence of one's hip bones). Body surveillance behaviours are also rarely disclosed to other or even noticed by the people doing it because people, in particular women, have been socialized to check their appearance regularly (Fitzsimmons-Craft et al., 2012). Furthering this, self-objectification has been connected to the experience of male gaze on women. Male gaze is defined as the voyeuristic and eroticized surveillance of women's bodies by men (Glapka, 2018), which has been found to increase body shame and social physique anxiety in the women (Calogero, 2004) and increase the internalization of beauty ideals (Guizzo & Cadinu, 2017). Research on self-objectification began in the 1990s, which led to embodiment research as an antidote to this self-objectifying experience (Cook-Cottone, 2020). The fifth construct is body dissatisfaction, defined as "a person's negative thoughts and feeling about his or her body" (Grogan, 2022, p. 4). The sixth and final factor is disordered eating behaviours such as fasting, binge eating, skipping meals, avoiding types of food, self-induced vomiting, laxative misuse, steroid use, and diet pills (NEDC, n.d.).

The sociocultural model of disordered eating illustrates a path of influence leading from a pressure for thinness to thin-ideal internalization to body dissatisfaction and ending in disordered eating behaviours. In the 2014 study, Fitzsimmons-Craft et al. found that social comparison and body surveillance has a full indirect role on the relationship between thin-ideal internalization

and body dissatisfaction. This means that if a person who has internalized the thin ideal also takes part in social comparison and body surveillance, this will likely influence her opinions of her body. And since body dissatisfaction has been identified as one of the strongest predictors of the development of EDs (Stice et al., 2004), the higher levels of body dissatisfaction present, the higher the risk towards disordered eating behaviour. Most importantly, the presence of thin-ideal internalization dictates the strength of everything else in the model.

The sociocultural model of disordered eating has illustrated that traditional media sources (i.e., magazine, television, advertisements) influence the internalization of the thin-ideal (Fitzsimmons-Craft et al., 2012; 2014; Jiotsa et al., 2021). More recently, research has demonstrated the impact of social media and image-based media, such as Facebook and Instagram, on EDs in users (Lladó Jordan et al., 2021; Perloff, 2014; Saunders & Eaton, 2018; Tiggemann & Anderberg, 2019). Social media has been shown to negatively affect body image (Tiggemann & Anderberg, 2019), which is a precursor to disordered eating behaviour (Cook-Cottone, 2020). Higher use of technology and media can increase body dissatisfaction and thin-ideal internalization (Jiotsa et al., 2021). To connect the consequences with effects of nature on human wellbeing, time in nature has been shown to help decrease the use of technology and media in youth and children (Larson et al., 2019).

There are a number of other factors that contribute to the development of EDs outside of those included within the context of the sociocultural model of disordered eating, including body-related shame (Cavalera et al., 2016) and guilt (Bottera et al., 2020), as well as a lack of feeling of control (Cook-Cottone, 2020). It is difficult to find clear or constant definitions for body-related shame and guilt. For the purpose of this paper, the definitions pulled from Tangney (1998) as discussed in Liang et al. (2021) will be used: body-related shame is a self-conscious

emotion that assesses one's global self negatively and body-related guilt is a self-conscious emotion that focuses on the negative evaluation of one's behaviour. In addition to this shame and guilt, both self-hate and self-loathing contribute to ED behaviour (Cook-Cottone, 2020). People with EDs have described their ED as being a separate voice or person inside them that is constantly critical and denigrating increasing this self-hatred (D'Abundo & Chally, 2004). This constant criticism and self-hatred often lead to the sufferer feeling very isolated because they feel like the world and the people around them are against them (D'Abundo & Chally, 2004). Not only do people with EDs feel alienated from the world, they also often feel alienated from their emotions and their bodily senses (Monteleone, et al., 2017; Cook-Cottone, 2020).

A final common factor among individuals with EDs is a lack of embodiment (Stanghellini et al., 2015). As eloquently stated by Cook-Cottone (2020) "The ED becomes the experience of self upon which all else is organized. And the disordered self, or the misrepresentation of self, is what the world responds to as well. Within this context, the authentic, real, and embodied self is lost." (p. 61). It is possible that increasing embodiment and the connection with one's body could support recovery in individuals suffering from EDs.

In summary, the sociocultural model of disordered eating provides a foundation of understanding what aspects of society as well as what individual behaviours can influence the development of an ED. Outside of the model, there are many other factors that also increase the likelihood of developing an ED, such as body-related shame and guilt, self-hatred, and a lack of embodiment. With the many risk factors and the strong influence of societal pressures, it is unsurprising that EDs are notoriously difficult from which to recover. The following section discusses experiences of the journey towards recovery, relapse statistics, and the dangers (e.g.,

isolation, death from starvation, metabolism difficulties, cardiovascular difficulties) that surround those with EDs.

### **Feminist Theory and Eating Disorders: The Outdoors as a Man's World and Diet Culture**

Feminist theory argues for approaching every issue from an understanding of the context that surrounds the issue rather than viewing it as an individual-level problem, as our current society likes to suggest (Malson & Burns, 2009). EDs are often traditionally viewed as an individual pathology that is caused from an internal deviation from the norm of a diagnosed woman (Malson & Burns, 2009); however, starting with Orbach (1979), Chernin (1983), and Lawrence (1984), feminist theorists argued that these damaging practices of women and girls can only be understood within the context of gender stereotypes and gender inequalities present in Western patriarchal cultures (Malson & Burns, 2009). More recently, Malson and Burns (2009) argued that EDs are no longer viewed in the divided “normal and pathology” but rather seen as normal reactions to the current gendered culturally normative order of things. They also argue for a tearing down of the pathologizing of EDs, which is similar to Cook-Cottone (2020)'s description of EDs as a normative reaction of a person with culturally normative body beliefs (risk factors) spiraling out of control.

Eckermann (2009) outlays a late twentieth century cultural phenomenon that she calls “multiple cults of thinness” (p. 10) which is proliferated by models and celebrities starving themselves and the niche exposure to information due to Google search engine algorithms. Because of this heightened amount and ease of exposure to thin beauty ideal messages, the feminist argument of understanding the context of an issue such as EDs is even more important.

**Women don't go outside.** In Western Eurocentric society, women have been socialized to remain indoors, are not exposed to outdoor recreation, and are expected to see their duty as

being a caregiver (Evans & Anderson, 2018). Outdoor recreation has been historically difficult for women to enter due to societal gender expectations, lack of exposure, and taught fear of the outdoors (Warren & Loeffler, 2006; Denny, 2011; McNiel et al., 2012). Being outside and doing outdoorsy things are the “man’s work” and less permitted for women. For example, Girl Scouts programming focuses on artistic projects, domestic skills, and self-improvements, whereas Boy Scouts learn outdoor skills (Evans & Anderson, 2018). Moreover, women are socialized to fear the outdoors because of the possible physical and psychological traumas that are present – not necessarily bears or snakes, but fear of being harassed and attacked by men (Evans & Anderson, 2018).

Society also encourages this gendered relationship with nature by teaching peer control through social comparison and fat shaming (Farrell, 2011); for example, a woman might make a comment that her female friend is getting “bulky” if the friend is engaged in rigorous outdoor work or adventure. Classism also plays a role, because women of “class” or “high birth” or simply “a lady” should have soft hands and thin limbs and should smell nice and be pretty (Earle-Brown, 2022). Since wealth is desirable in our society (Qi & Cui, 2018), this expectation for women is also desirable. However, research has shown that females participating in the outdoors helps break down gender norms and build confidence, body image, self-esteem, self-worth, and assertiveness in women (McDermott, 2004; Pohl et al., 2000).

**Diet Culture.** Of great importance to factors causing EDs and disconnection with one’s body is the prevalence of diet culture. Women are socialized to diet (Chaerani & Junaidi, 2019; Faw et al., 2021; Rangel, 2012). Diet culture is defined as “a system of beliefs that equates thinness to health and moral virtue, that promotes weight loss as a means of attaining higher status, and then demonizes certain ways of eating while elevating others” (Harrison, 2017, n.d.).

Diet culture is a term used in the anti-diet movement to criticize the commonality of dieting in the Western world (O'Malley, 2019). In a recent study aimed at trying to define the term as it pertains to the anti-diet movement, diet culture was described as “‘health myths about food and eating,’ and a ‘moral hierarchy of bodies’ driven by ‘systemic and structural forces.’” (Javanovski & Jaeger, 2022, p. 1). Dieting is seen by feminist researchers as a cultural practice that dictates detrimental expectations and norms around food and women’s bodies (Javanovski & Jaeger, 2022). Consistent dieting can lead to physical health difficulties (Calogero et al., 2019) and psychological difficulties, such as EDs for which it was found to be the strongest risk factor (Brown et al., 2020). Dieting focuses on food restriction by calories and/or type of food and often is combined with exercise to maintain a certain ideal body weight and/or shape that match the thin ideal (Faw et al., 2021).

### **Client Experiences of Recovery**

Relapse in EDs is very common (Berends et al., 2016) with relapse rates estimated at more than 50% in five years for AN (van Elburg, 2007) and 25 to 63% for BN (Steinhausen, 1999; Olmsted et al., 2015). In an older review of 119 studies, Steinhausen (2002) found that 45% of people with AN recovered, 35% had improved, 20% had a chronic ED, and 5% had died. These statistics suggest that EDs are hard and complex to treat and, according to leading guidelines in the ED field, make prevention and early treatment essential (NCCMH, 2004; Yager et al., 2006; NICE, 2020). A 2016 study on relapsing in clients suffering from AN, Berends et al. examined the rate, timing, and predictors of relapse for AN. Their aim was to develop a guideline to help prevent relapse. Eighty-three patients who had been successfully treated for AN were enrolled in a AN relapse prevention program. Their recovery trajectories in the relapse prevention program were recorded and then the authors followed-up with them 18 months later.

The authors found that 11% had a full relapse, 19% had a partial relapse and 70% did not relapse in the first eighteen months after treatment. Furthermore, the highest risk for full relapse occurred between four and sixteen months after the prevention program. This study, along with the other reviews and guidelines, clearly demonstrate the prevalence of relapse in ED recovery.

It is important to outline how this thesis defines ED recovery. One of the most prominent means of defining ED recovery is with Bardone-Cone et al.'s (2010) definition: people “who no longer meet the criteria for an ED, who have not engaged in bingeing, purging, or fasting in the past three months, who have a BMI of at least 18.5, and who score within 1 [standard deviation] of age-matched community norms on all [the psychometric assessments] have attained full recovery” (p. 10). However, this definition is not feminist or body inclusive as it focuses solely on physical aspects of recovery and demonstrates weight stigma by implying all ED bodies will be below a BMI of 18.5. Kenny et al. (2022) completed a study looking at participants with lived experiences of EDs and ED recovery and their view of the widely used Bardone-Cone et al. (2010) definition. Overall, most of the participants had issue with some or all aspects of the criteria. Participants shared the criteria was too categorical and too subjective and individualized. They also shared that the criteria is too specific to support a wide range of people and that the criteria present a view of recovery as linear whereas it is decidedly non-linear. Importantly, they shared that the language used in the criteria could trigger ED thoughts in the person hearing the definition. They state that “Recovery is more than weight, behaviours, and thoughts” (p. 14) but includes psychological wellbeing, improved coping, identity outside of the ED, self-perception and acceptance, and improved social functioning (Kenny et al., 2022). There was also a discussion of “functional recovery (p. 14) and an improved relationship with food and exercise. In general, Kenny et al. (2022) conclude that these findings continue to argue for recovery as a

self-defined experience and suggest that researchers focus on the absence of a diagnosis rather than recovery. Given this recent research, this study did not specifically define recovery for participants and, rather, used a self-perceived and defined approach to defining recovery. This is a common practice in published feminist ED recovery research (see LaMarre & Rice, 2016; Saunders et al., 2019).

In a qualitative study with seventeen White women, D'Abundo & Chally (2004) examined found that there is a wave-like pattern of disorder and recovery. The pattern demonstrated that when the severity of the ED increased, the line would swell into a wavelike formation and when the severity decreased, the line became flatter. The participants would have these waves: increasing to a relapse, hitting a pinnacle or highpoint of ED severity (i.e., the worst the ED gets), then moving to a "circle of acceptance" (D'Abundo & Chally, 2004, p. 1099) and then decreasing back to recovery (D'Abundo & Chally, 2004). The circle of acceptance would arrive during the pinnacle of the severity and shows how various elements that support recovery would work in tandem to support the decrease in symptom severity. These elements were aspects, such as spirituality, relationship, and acceptance of the disease, all of which would lead to higher feelings of self-worth (D'Abundo & Chally, 2004). Generally, recovery requires an interwoven quilt of mental, physical, and social factors (D'Abundo & Chally, 2004). In a more recent study, Lord et al. (2018) found similar themes of recovery while analyzing online message boards of a BED recovery website: admitting the disorder, recognizing unhealthy coping behaviours, and seeing recovery.

This aforementioned highpoint is when the ED has the most control over the sufferer's life. The pinnacle of severity can threaten the health of the sufferer. The prolonged starvation and/or purging can lead to hallucinations, lack of concentration, restlessness, and hyperactivity

(van Elburg, 2007). The most dangerous aspects of the pinnacle of an ED can be severe weight loss or weight gain, which can cause problems with organ function, osteoporosis, amenorrhea, persistent acid reflux, cardiac issues, and can lead to death (Leonard & Mehler, 2001; Westmoreland et al., 2016). EDs can also be comorbid with other mental health issues, such as severe depression and anxiety, and this can lead to suicide (DSM-5, APA, 2013; Noordenbos, 2013). Of note, the more severe the stage of starvation, the fewer personal characteristics are shown and people with EDs begin to look and act more alike (Noordenbos, 2013). The pinnacle was usually followed by a turning point either related to the illness or not. The turning point is defined as events or people that were catalysts on the road to recovery.

Both D'Abundo and Chally (2004) and Lord et al. (2018) found a common theme of isolative behaviours in sufferers. The participants shared that EDs took over all of their time and the preoccupation with food and weight separated them from society and loved ones. In recovery, Jepsen Trangsrud et al. (2021) suggest clients find connectedness (with themselves and others), hope, and identity and meaning beyond challenges or illness experiences. It is possible to combat this isolation through embodiment and connection to nature, as previous research suggests that time in nature decreases loneliness, possibly because natural spaces have been shown to facilitate social relationships, social contact, and sense of community belonging (Kruiz et al., 2019; Rugel et al., 2019), which are argued to be vital to human wellbeing (Vitalia, 2020).

More and more, studies and those suffering with EDs are indicating that recovery from an ED is a life-long healing process (i.e., Pettersen & Rosenvinge, 2002; Davidson & Roe, 2007; Topor et al., 2011; Jepsen Trangsrud et al., 2020b; Cook-Cottone, 2020), and just because a person no longer or never met the diagnostic criteria, it does not mean they are cured (D'Abundo & Chally, 2004). The research looking at ED recovery implies a need for the client to focus on

coping skills that can fit into everyday life so they can continue to live while also ameliorating the negative effects (Jepsen Trangsrud et al., 2021). These everyday skills are things that clients can manage themselves on a daily basis that can keep them on the path of recovery. As such, fostering tools and means of self and body acceptance as well as a strong community can be a way to support those who will manage ED thoughts and predispositions their entire lives (Saunders et al., 2019). Cook-Cottone (2020) and Piran (2017) have since argued for approaching recovery through the lens of embodiment and to reach recovery by building the connection with the body.

## **Embodiment**

### **History and Definition of Embodiment**

The body is our “means of communication” with the world (Merleau-Ponty, 1962, p. 92); it is how we experience the world (Jepsen Trangsrud et al., 2020), and since the body and mind are inseparable, the body is the centre of perception and subjectivity (Merleau-Ponty, 1962). These ideas of French phenomenologist Merleau-Ponty (1962) are what led to the concept of embodiment, but specific research of embodiment as it relates to EDs began as a reaction to research on self-objectification (Cook-Cottone, 2020). The two current leading researchers in this field are Niva Piran and Catherine Cook-Cottone. Piran (2017) completed an intensive three-year study to create the Developmental Theory of Embodiment (DTE), which outlines a core construct of what positive embodiment looks like. Within this core construct, entitled “Experiences of Embodiment” (p. 4), there are five dimensions: (1) body connection and comfort (i.e., feeling at one with one’s body and feeling comfortable in one’s own skin), (2) agency and functionality (i.e., the ability to express one’s self physically through movement and vocally through things such as expressing views or singing; viewing one’s body as capable of doing

many things), (3) experience and expression of desire (i.e., experiencing and responding to desires, of appetite and sexual desire, in a self-caring way), (4) attuned self-care (i.e., fulfilling bodily, emotional, and relational needs, including having meaningful pursuits), and (5) inhabiting the body as a subjective site resisting objectification (i.e., experiencing your body from within, subjectively, which can include defiance towards pressures to fit in to societal standards; Piran 2016, 2017; Piran et al., 2020). The relationship between these five dimensions led to the definition of “positive embodiment” (Piran, 2017, p. 4) and its opposite “negative embodiment” (p. 4).

Protective and disruptive experiences of embodiment cluster into three main categories, as discussed by Piran and Teall (2012). The first is the physical domain, which includes attunement to one’s inner states (Piran et al., 2020). Inner attunement is similar to the concept of interoception, which can be defined as the perception of signals arising from the body about its physiological condition, with or without awareness of the signals (Cameron, 2002; Craig, 2002). The second is the mental domain of the person’s relationship to their body. For example, the freedom from, versus exposure to, constraining stereotypes about gender and other dimensions of social location (i.e. body as object or an expectation to be docile) as well as sexual desires and self-care and/or self-injurious behaviours. The third is the social power and relationship connections domain which is the “complex interplay between the body and culture” (Mensing, 2021. p. 5). Social systems affect our feelings of embodiment by our experience in the world. For example, whether or not someone has freedom from prejudicial treatment and equitable access to resources, sources of power that are unrelated to appearance, presence of empowering relationships and role models, and being a member in equitable communities all influence feelings of embodiment (Piran & Teall, 2012).

For the purpose of this thesis, embodiment is defined as “a way of being (non-dualistic conceptualization of self) in which being is understood as residing in and manifesting from the body as one experiences the internal (i.e. physiological, emotional, cognitive), external (i.e., interpersonal, social, cultural), and existential dimensions of life” (Cook-Cottone, 2020, p. 1).

### **Lack of Embodiment**

The lack of embodiment has been studied through using the Experience of Embodiment Scale (EES, Piran, 2019; Piran et al, 2020). Studies employing the EES found that experiences of embodiment are positively associated with many aspects of women’s lives that are related to EDs, such as body esteem and connection, sexual self-esteem and efficacy, self-esteem, and quality of life (Gattario, et al., 2020). In addition, measures of embodiment can also effectively measure alexithymia and depression in people suffering from EDs (Gattario, et al., 2020). Therefore, a lack of embodiment would show lower levels of all these aspects, with the exceptions of alexithymia and depression which would show higher levels in those with EDs. Increasing feelings of embodiment is a protective factor against negative body image (Levine & Smolak, 2016), can encourage more positive feelings about the body (Cook-Cottone, 2020), and can support recovery efforts for those struggling with EDs (Piran & Teall, 2012; Cook-Cottone & Douglass, 2017).

Perey and Cook-Cottone (2020) argued that the embodied experience is the most important experience but is also the most ignored. They suggested that supporting positive embodiment is key to managing dysfunctional cognitions about the body, as positive embodiment is the ability to feel a sense of connection between mind and body. To develop positive embodiment, one integrates awareness of one's internal needs and environmental

demands with intentional engagement in embodied practice. In short, judgement, objectification, and ignorance of the body is replaced by actively *experiencing* the body.

### **Positive Embodiment as Supporting ED Recovery and Maintenance**

Since one of the common experiences of EDs is alexithymia and disconnection from one's own body (Taylor et al., 1991; Cook-Cottone, 2020), it follows that bringing the self into connection with the body and its wisdom would support someone in healing from an ED (Cook-Cottone, 2020). Re-authoring and rebuilding this relationship with one's body can only be done if one is in contact with one's body (Piran, 2017; Cook-Cottone, 2020). This contact can be made through embodying practices.

Previous research on embodiment demonstrates how individuals can increase feelings of embodiment and inner wisdom through yoga (Cook-Cottone & Douglass, 2017), equine therapy (Cook-Cottone, 2020) and that being active with the body *intentionally* can support feelings of embodiment and greater awareness of the body and its processes (Allen-Collinson & Owton, 2014; Cook-Cottone, 2020; Perey & Cook-Cottone, 2020). However, embodiment can be found in many ways, particularly through moving and engaging with our bodies as we were meant to do evolutionarily (Cook-Cottone, 2015a; 2015b; Scritchfield, 2016; Caldwell, 2018). When we mindfully attune to our bodies through movement and what our bodies need (i.e., to rest, to run, to eat, to sleep), we can connect body and mind (Cook-Cottone, 2020) and we can begin to see our bodies as an inseparable part of who we are rather than an enemy that is withholding us from what we believe we want, or have been told to want. Particularly, people suffering with EDs often have a negative or difficult relationship with exercise as it is often used to control or lose weight (Shroff et al., 2006). Therefore, having a place to be active that can help alter their relationship with exercise can support healing.

Cook-Cottone (2020) discusses embodiment through what is called embodied wisdom, the goal of which is to begin to see the body as a resource instead of a source of pain or a battlefield between the person and the ED. Since bodies are a part of nature and, thus, irrevocably integrated into the natural environment (Hall Kimmerer, 2013) this may suggest that if we see natural spaces and more-than-human nature as a resource/place of healing we will begin to see our bodies as resources/places of healing. We may begin to see our bodies as one with our minds and trust in its intelligence. Therefore, we can now turn towards understanding how nature is currently known to affect our bodies, minds, and the connection between the two.

### **Nature's Effects on Embodiment**

According to Merriam-Webster (n.d.), nature is defined first as “the external world in its entirety”, and second as “natural scenery”. There are nine definitions of “nature” in the Merriam-Webster Dictionary, which suggests that humans have many uses for the word. However, this thesis will draw on the definition from Bratman et al. (2012, p. 120): “Areas containing elements of living systems that include plants and non-human animals across a range of scales and degrees of human management—from a small urban park to pristine wilderness.” It is unequivocal that humans are a part of nature. From Darwin’s *Origins of Species* (1859) to sixth century BCE Persian monarch Cyrus the Great’s enclosed garden for calm and relaxation (Rostami et al., 2016) to modern studies on evolution, humans have been shown to have developed with and be a member of the natural world as well as finding calm in nature. Over the last few thousand years, humans have separated themselves from the more-than-human world (Louv, 2009). Particularly in the last century with the rapid increase in technology, it is thought that most people spend 90% of their time indoors (Frumkin et al., 2017). Moreover, there are many children who have never seen the stars in the night sky due to light pollution (Harper et al., 2019) or cannot name common

species of plants, trees, or animals around them (Louv, 2009) but can name all the Pokémon characters (Balmford, 2002). In reaction to industrialization and modernization of the world, studies looking at the effects of nature on humans are said to have begun with a counterculture called ecopsychology (Harper et al., 2019). However, nature's healing effects on humans is long held knowledge in human history, especially seen through Indigenous knowledge (Hall Kimmerer, 2013; Thompson, 2011). In the mid-1900s, empirical studies in Western cultures on these healing effects began to be published and are of increasing number each year (i.e., Breitenstein & Ewert, 1990; Cox et al., 2017; Frumkin et al., 2017; Kaplan, 1993; Kaplan, 1995), showing nature's impact on general health benefits (Mygind et al., 2019) as well as mental health recovery (Keniger et al., 2013).

Allen-Collinson and Leledaki (2015) found that exercise in nature promoted a sense of wonderment and “nature connection”, and brought up cherished childhood nature memories. The participants in this study showed a clear preference for natural vistas and places not constructed by humans. Allen-Collinson & Leledaki (2015) also reported that participants noticed that exercising in nature increased their awareness of their proprioception (the ‘inward’ perception of deep muscles that brought focus to their body; the “haptic” sense). The physical activity and benefits of nature-based therapies could encourage individuals suffering from EDs to connect to, and feel more at home in their bodies, as well change how they view their bodies—less as an object for others (Monteleone et al., 2017) and more as a beautiful vessel that helps them experience life.

Outside of physical movement, Allen-Collinson and Owton (2014) discuss how visual and haptic sensory experiences (i.e., the sense of touch, internal bodily sensations, sense of movement and balance, proprioception; for further explanation, see Allen-Collinson and Owton,

2014) are related to experiences of “intense embodiment” (p. 247) or “periods of heightened awareness of corporeal existence” (p. 247). Therefore, enlivening the senses can promote embodiment. Allen-Collinson and Leledaki (2015) noted that elemental encounters generally created intense embodied experiences in humans, such as people celebrating or loving being in the elemental world even when in rain or bad weather. For example, participants shared a heightened sensory awareness and exhilaration of being up on top of the moors in high winds.

Nature does engage our senses and is recognized to increase feelings of connectedness (Lumber et al., 2017) and restoration (Beery & Jørgensen, 2016). As shown by Pálsdóttir et al. (2021), smellscape of gardens and nature are a catalyst for sensory awareness and memories. And Rickard and White (2021)’s experimental study found that walking barefoot in nature and feeling the tactile sensations of being in contact with the ground increased feelings of nature connectedness and psychological restoration. Seeing (Liu et al., 2019; Ulrich et al., 1991), hearing (Abbott et al., 2016; Richardson et al., 2015; Spendrup et al., 2016), smelling (Pálsdóttir et al., 2021; Truong, et al., 2018), and touching (Ikei & Miyazaki, 2020; Wang et al., 2018) nature and natural things can help us feel more present in our bodies and more connected with our surroundings.

The studies being published demonstrate that connection and interaction with the more-than-human world benefits the human species in many ways, such as wellbeing, stress, anxiety and depression, attention/concentration, rumination, and body image. According to previous research, nature has been linked to a number of effects on the human physiological and mental system. Prior research has indicated that contact with nature is intrinsically motivating (Cleary et al., 2017; Baxter & Pelletier, 2019), which means that being in contact with nature is enjoyable for its own sake (Ryan & Deci, 2000). Therefore, it is likely that many people, both suffering

from mental health struggles and those who are not, are going to nature in order to feel restored, find balance and find calm (i.e., Tester-Jones et al., 2020). It is important to note that most of the systematic reviews and meta-analyses looking at nature-based interventions for a variety of mental health issues have low statistical power, methodological weaknesses, small sample sizes, and are focused on children and young people. There is need for controlled randomized control trials, longitudinal studies, and qualitative analyses in order to attempt to understand the complex relationship between nature and human wellbeing (Owen & Bunce, 2022).

### **Nature as Promotive to General Mental and Physical Wellbeing**

Countless numbers of studies show how nature benefits human wellbeing (i.e., Laforteza et al., 2009; Martin et al., 2020; Pritchard et al., 2021; Pirchio et al., 2021; Joschko et al., 2023), even by simply walking in natural environments (Martens et al., 2011; Joschko et al., 2023) or gardening (Hofmann et al., 2017). In a recent experimental study, Heilmayr and Miller (2019) showed that participants who spent time in nature over a two-week period demonstrated a similar increase in subjective well-being and health as participants who completed previously established and validated positive psychology interventions over the same time period. Participants in Joschko et al. (2023) reported that nature “itself caused health-promoting effects” (p. 15).

People living in cities with more green spaces report better physical and psychological health than people in places with less green spaces (Maas et al., 2006; Helbich et al., 2018). Nearby nature in urban spaces also moderates the relationship between pain-related rumination and intensity of pain perception in older adults in New York City, USA, with chronic pain (Wells et al., 2019). Exposure to natural environments reduces the risk of mental health disorders (Bratman et al., 2019), lowers blood pressure (Hartig et al., 2003; Shanahan et al., 2016),

decreases asthma and allergies (Cavaleiro Rufo et al., 2021), improves birth outcomes (Cox et al., 2017), improves immune functioning (Li & Kawada, 2011; Hall & Knuth, 2019), improves postoperative recovery (Park & Mattson, 2009), and strengthens human willpower, which increases self-discipline (Faber Taylor et al., 2002; Berry et al., 2014). Nature has also been shown to have positive effects on disease prevalence and mortality rates (Takano et al., 2002, Maas et al., 2009, James et al., 2016; Crouse et al., 2017). Furthermore, Li et al. (2008) found that forest bathing increases natural killer cells and anti-cancer proteins in female participants, and Tsai et al. (2021) found that greater exposure to greenness is associated with lower numbers of type 2 diabetes in the local communities.

A recent narrative review of quantitative research studies looking the effects of time spent in nature showed more significant positive effects on five physiological parameters: brain activity, cardiovascular activity, endocrine system, and immune system (Haluza et al., 2014). Although, it is important to mention that for this study Haluza et al. (2014) noted that most of the research on how nature effects humans is being completed in Asia, particularly Japan. With the lack of translation tools, Haluza et al. (2014) disclosed that they likely were unable to include important articles due to the language barrier, which is also important to note in the current study. To assist in understanding previous literature, specific areas of research will be explored next. Stress, anxiety and depression, attention, rumination, and negative body image are all aspects that have been found to coincide with EDs (Cook-Cottone, 2020), therefore, the next sections will speak to how time spent interacting with nature had been previously found to positively affect change in these areas.

**Stress.** Recorded stress-related difficulties have been increasing over the last few decades (American Institute of Stress, 2022) and interactions with natural environment is one way that

researchers have been exploring to help people suffering from the consequences of added stress. In a formative study, Kaplan (1995) found that time in nature supports the restoration of cognitive and emotional functioning after stress and mental strain. Nature can reduce stress-related disorders, such as burnout, long-term sick leaves, and heart disease (Barton, 2009; Stigsdotter & Grahn, 2011; Sahlin et al., 2014), is generally stress relieving (Korpela et al., 2018; Corazon et al., 2019; Yao et al., 2021) and improves sleep (Shin et al., 2020). Under real-life stressor conditions (e.g., school exam period), Olafsdottir et al. (2020) found that walking in nature resulted in lower cortisol levels when compared to viewing nature on a screen (i.e., TV).

**Anxiety and depression.** Nature-based interventions has been argued to be beneficial for the treatment and prevention of depression (Owens & Bunce, 2022; Joschko et al., 2023), low mood (Olafsdottir et al., 2020), and state anxiety (Kotera et al., 2021). However, there is still a need for rigorous empirical studies to support this argument, as researchers lack understanding of the mechanisms behind why time in nature helps humans (Owens & Bunce, 2022). One of the largest studies looking at how connection to nature affects humans is Tester-Jones et al.'s (2020) survey of participants throughout 18 countries. They found that people already dealing with common mental health disorders (i.e., anxiety, depression) visited nature weekly seemingly as a means for self-management of symptoms. A cross-sectional study in New Zealand looking at the relationship between urban green space access and number of residents undergoing anxiety/mood disorder treatment found that increased urban green space was associated with lower number of anxiety/mood disorders in the area (Nutsford et al., 2013). Furthermore, in a survey distributed during the COVID-19 lockdown, Pouso et al. (2021) found that access to nature and green spaces helped people cope with the severe mental health effects of the lockdowns.

**Attention.** Attention restoration theory (ART; Kaplan, 1995; 2001) is a framework that helps explain how nature affects attention. Kaplan (2001) showed that time spent in nature can restore attention after completing a strenuous mental task. More recently, studies have suggested some improvements in working memory, cognitive flexibility, and attentional control after contact with nature (Ohly et al., 2016; Stevenson et al., 2018). Nature also has been shown to positively effect concentration (Ottoosson & Grahn, 2005) and have a restorative value on cognitive functioning (Berman et al., 2008). Furthermore, children with ADHD who play in green spaces regularly are better able to concentrate than children with ADHD who play in built spaces (Faber Taylor et al., 2014).

**Rumination.** McEwan et al. (2021) found that all university staff and students randomly assigned to forest bathing, compassionate mind training, or both, experienced a reduction in rumination. This demonstrates that, among the participants in their study, forest bathing was equivalent in benefits to mindfulness for depression. Many studies examining nature-based interventions have reported reductions in participant rumination (Korpela et al., 2018; Wells et al., 2019; Bratman et al., 2021; McEwan et al., 2021), though not all studies have shown this (Golding et al., 2018). Since rumination is a common symptom of EDs (DSM-5, APA, 2013), it follows that nature may also be able to help to moderate or decrease this.

**Isolation.** People who suffer from ED often isolate themselves (Cook-Cottone, 2020), and connection to other people and things is often not a priority. Isolation results from shame about the self or being so afraid of food that the person does not want to take the chance to engage with it in an “uncontrolled” setting (Cook-Cottone, 2020). Nature has been shown to support more connection to humans, but also to the experience of meaning in life (Jepsen Trangsrud et al., 2021; Joschko et al., 2023). Since being connected to people (Hammell, 2014)

and feeling a sense of purpose is so important (Brassai et al., 2011), nature is one possible way to support others in reaching these experiences.

**Body image.** Through means of being active outside or being at rest outside, there is a sense of accomplishment and wonderment at what the body is capable of, in short better body image (Cole et al., 2013; Rosenberg et al., 2014). Being present in nature is also shown to result in connection between mind and body (McIver et al., 2018) or a sense of self (Carlson, et al., 2020). Therefore, as Cook-Cottone (2020) discusses in relation to increased embodiment, it may be that experiences in and connection to nature may bring together the body and the mind as one being rather than separate entities or seeing the body as an enemy to overcome. As further evidence, Swami et al. (2018) completed a series of studies looking at how nature affects body image. The authors found that, among their sample, viewing images of natural environments, rather than built environments, improved body image. Moreover, when participants who went for a walk in a natural environment versus those who went in a built environment had even higher levels of positive body image measured on previously validated body image scales. Even simply spending time in a designed green space alone improved the participants' body image.

In summary, time spent in and interacting with nature has been shown to positively effect change for human beings in all manner of ways from decreasing rumination to increasing relaxation. The next section will cover the existing nature-based practices that are being examined and practiced throughout the world as well as how these nature-based practices could affect positive change in ED recovery.

### **Overview of Current Nature Practices**

Nature's ability to support positive embodiment, as previously discussed, may support ED recovery. Experiences in nature can increase feelings of embodiment by stimulating the

senses (i.e. olfaction [Pálsdóttir et al., 2021; Corazon et al., 2019; Carlson et al., 2020] and haptic sense [Corazon, et al., 2019; Carlson, et al., 2020]), and helping one be grounded and present in one's body (Carlson, et al., 2020). Pálsdóttir et al. (2021) argued that nature connectedness is conducive to human well-being, mindfulness, and happiness. The research to support nature's ability to increase positive embodiment (outside of formal Nature-Based Therapy) comes from recent studies on nature-based practices already in place in cultures outside of North America.

The first nature-based practice is *shinrin-yoku*, which is a Japanese practice, the name of which has been translated to English as "forest bathing" (Yamaguchi et al., 2006). Forest bathing has been defined as "taking in the atmosphere of the forest" (Park et al., 2008, p. 1). There are many studies using salivary cortisol to record effects of time spent in nature walking or sitting that has a significant relaxation effect (i.e., Yamaguchi et al., 2006, Tsunetsugu et al., 2007; Park et al., 2008). The second is *friluftsliv* (Jepsen Trangsrud et al., 2020b), which is a Norwegian practice defined as "outdoor pursuits" that are "nature-based, non-competitive, and non-motorized activities (either sedentary or active)" (p. 1) and "emphasized as an arena that can facilitate support, engagement, and coping strategies on an everyday basis, and as an important source of health and wellbeing" (p. 2). The practice of *friluftsliv* is embedded in Norwegian culture and is both dynamic and multifaceted (Jepsen Trangsrud et al., 2020b).

A final important note is evidence for the practicality and functionality of nature-based therapeutic practices in more intensive care, which is sometimes required for people suffering from EDs. In a recent study, Carlson et al. (2020) examined the process of implementing a nature-based intervention over a nine-month period within an in-patient psychiatric setting. Carlson et al. (2020) found that nature-based interventions were experienced positively by both staff and patients, and that commitment to the nature-based programs was very high (Carlson et

al., 2020). For patients, the intervention promoted the use of the senses, slowed down their thinking, promoted feelings of ownership of their bodies, increased social interaction as well as care for self and others (Carlson et al., 2020). The study demonstrated that such interventions are feasible within in-patient care, which means they could be applied to residential ED treatment programs.

### **Nature-based Intervention's Possible Impact on Eating Disorder Recovery**

To date, there are three studies that have investigated how nature might support ED recovery. One examined the effects of nature-based interventions on individuals with binge-eating disorder (Corazon et al., 2018), and two examined how daily interactions with nature impacted ED recovery from BN and BED (Jepsen Trangsrud et al., 2020b; Jepsen Trangsrud et al., 2021). All of these studies were completed in Nordic countries, where daily outdoor pursuits are deeply rooted in culture. The studies record preliminary findings about the positive effects of nature pursuits upon EDs in Norway, thus it is uncertain whether nature-based interventions can function in North American contexts. It is important to note that in all of these studies the authors do not discuss race, socioeconomic status, or other identities outside of the participants' gender and education status, therefore, these results speak to only a narrow range of experience within the population dealing with EDs.

The first Norwegian study was interview-based and examined how embodying experiences with nature (i.e., the practice of *friluftsliv*) related to recovery in everyday life for those experiencing EDs (Jepsen Trangsrud et al., 2020b). This study by Jepsen Trangsrud et al. (2020b) highly influenced the present thesis. In this thorough and attentive qualitative study, the authors collaborated with an ED community competence group in Norway to create, run, and analyze the study and its results. This collaboration ensured a participant-centred approach to the

research. The authors interviewed eight participants, seven of which were women, twice to explore how the participants experienced the effects of *friluftsliv* on their EDs. It is important to note that this study is not inclusive of all EDs, and focus primarily on AN and BN. Through interpretative phenomenological analysis (Smith et al., 2009), the authors developed themes that were then reviewed by the competence group to ensure the authors were not oversimplifying the participants' experiences. The first theme was that nature provides one with peacefulness and calmness. Many participants discussed how EDs build up pressure inside whereas nature helps slow them down and help them breathe. The second theme was that nature invites one to sense the world with one's feet. The authors discussed this sensing as an experience of "re-embodiment" (Jepsen Trangsrud et al., 2020b, p. 7), which the participants said assisted them in connecting to the present and being attentive. The third theme was that nature embraces one as one is. Nature was experienced as being non-judgemental and the participants felt "left in peace" (Jepsen Trangsrud et al., 2020b, p. 8), allowed a break from the constant self-criticism. And the fourth theme was that nature provides room for self-care. Being outside requires one to attend to the weather, one's hunger, and one's tiredness, in short, one's basic needs. The participants shared that nature "provided direct responses and consequences, which meant they had to listen to both nature and to their body" (Jepsen Trangsrud et al., 2020b, p. 8). All of these themes can be related back to the aspects of positive embodiment and feeling as one with one's body: relaxation, stimulation of the senses, accepting oneself, and taking care of oneself. The authors reached the conclusion that time in nature and building a reciprocal relationship with nature can alleviate the fundamental feeling of distress (Jepsen Trangsrud et al., 2020b) that is prevalent in EDs (Cook-Cottone, 2015c). Importantly, the authors wrote that: "The connection between a desired balance between calmness on the outside and calmness on the inside could be argued to

highlight the bond between humans and nature. In this, the body should not be seen as an object responding to stimuli in nature, but as an existential body, continuously experiencing and experienced, in movement and intentionally seeking out into the world (Merleau-Ponty, 1994; 1962)” (Jepsen Trangsrud et al., 2020b, p. 11). In addition, the authors discussed how the participants felt able to connect with their bodies while in nature. Of note, the authors brought up the idea highlighted by Duesund and Skårderud (2003): the aim of dealing with an ED is to have one’s body be “positively absent from [one’s] attention” (Duesund & Skårderud, 2003, p. 59). The participants whom Jepsen Trangsrud et al. (2020b) interviewed shared that this positive distance is possible in nature. The authors suggest that future research should look at exploring lived experiences with nature in everyday life, lived experiences of ED recovery from a first-person perspective, and the reciprocal relationship between human and nature.

A second study by Jepsen Trangsrud et al. (2021) explored the subjective experiences of how *friluftsliv* can support processes of recovery for people with EDs. Three major themes emerged from the analysis: (1) *Friluftsliv* as relational processes in recovery; (2) *Friluftsliv* as a learning and practice arena for recovery; and (3) *Friluftsliv* as supporting a new sense of self. For the eight participants suffering from BN, nature supported feelings of freedom when alone in nature and helped to shift ED symptoms into the background. *Friluftsliv* facilitated positive bonding experiences with others, allowed for both silence and comfortable conversation, and facilitated a sense of empowerment. *Friluftsliv* helped participants redefine their relationship with food, including giving them a new perspective on food and how much they need to eat. The participants felt supported in learning how to live in an uncontrollable world and felt that nature was an important coping strategy. They also noted that moving their body helped process through emotions and have a different identity. Therefore, if we can shift “the eating disorder

into the background” (Jepsen Trangsrud et al., 2021, p. 1) we can help those with EDs move towards recovery. The authors suggest here that future research can further explore the therapeutic benefits of a relationship with nature in everyday life.

The final study by Corazon et al. (2018) is a mixed-methods study conducted in Denmark. The authors looked at Nature-Based Therapy (NBT) and its effect on BED in comparison to attending support group meetings (SGMs) for EDs. The sample size was small (eight women in the NBT; six women and one man in the SGM) and not randomized, thus the authors stressed the need for the research to be replicated a larger scale. Overall, the authors noted more positive quantitative results in wellbeing and self-esteem for NBT than for SGMs. The participants also shared that the effects of NBT appeared to last longer than the SGM and were easy to translate into daily life. Importantly, the participants noted that nature was like a “second therapist” (Corazon et al., 2018, p. 8). However, there are some methodological issues with the study that bring into question how comparable the two interventions were. The NBT was a 12-week therapeutic group that took place in a therapy garden and combined nature-based therapy with Acceptance and Commitment therapy (ACT; see Harris & Hayes, 2019). In comparison, the SGM was a 10-week social support group with no therapeutic intention. Since the two interventions have different levels of therapeutic support, they cannot be accurately compared to one another in their effects on EDs. The authors also interviewed four of the participants in the NBT intervention but were not able interview any of the participants from the SGMs.

In summary, the extant literature on the impact of nature on ED recovery demonstrates promising results showing the benefits of time spent in nature on connection with one’s body, increased self-care awareness, and the ability of nature-based practices to be incorporated into

people's daily lives. However, one major barrier to women to incorporating nature practices into their lives is how the outdoors has not been a welcoming space for them.

### **Nature is Historically Not a Place for Women**

Nature and being outdoors is a historically White, cis-gender, heterosexual male space (Mitten, 2012; Mitten, 2018). In the Western patriarchal society, women have been historically viewed – and are still viewed – as the weaker gender (de Beauvoir, 1956). Given that outdoor pursuits and adventures have historically been seen as a man's jurisdiction (Mitten, 2012; Mitten, 2018), women have been kept out of these spaces. For example, the first person – a man – to set foot on the Antarctic Continent did so likely in 1821 (McGonigal, D., n.d.) whereas the first women did not reach Antarctica until 1935 (Guinness Book of World Records, n.d.). As another example, the first people (men) recorded to summit Mount Everest was Tensing Norgay and Sir Edmund Hillary in 1953 (New Zealand History, 2017). The first woman, Junko Tabei, was the 36<sup>th</sup> person to summit Mount Everest in 1975 (Barronian, 2020).

A recent article about the gendered landscape of the outdoor education field in Australia stated that despite more and more women entering the outdoor education field, they are still underrepresented in any position of power or influence (Gray, 2016). Mitten (2018), who has written many articles on women in the outdoor industry, recounts the male domination of the industry. She began to work in outdoor education in the 1960s and by the 1980s perceived that nothing had changed. Gray (2016) also recounts her entry into the field and being one of two women at an outdoor education conference in the early 1990s. In an enlightening book chapter, Mitten (2018) states that “Western white culture takes it for granted that men will be outdoors, though in the last couple of thousand years it has been hesitant to visualize women being in outdoor environments” (p. 19). To uphold this, stereotypes held the classic role of trying to

maintain the status quo of women being in the kitchen and the home where as men were the breadwinners. Mitten et al., (2012) studied undercurrent assumptions about the roles of men and women on outdoor excursions found that women can have valued physical and technical skills but are expected to use their interpersonal skills much more than men. As such, women take on the less-valued roles (the valued roles are usually physical and technical) of group facilitation and relationship building.

Outside of skillsets, there are stereotypical looks and ideas that people hold. As Mitten (2018) explained clearly: “Outdoor leaders are commonly thought of as white, male, fairly tall, rugged, and buff, sporting a beard and a hat, often wearing a flannel shirt, and an expert in outdoor activities. This common view of an outdoor leader disregards women and many men, rendering them invisible. However, there is one stereotype label used for women outdoor leaders, and that is lesbian” (p. 20). Western, white, heterosexual culture aims to insult a woman by calling her a lesbian, and this practice was titled lesbian baiting (McClintock, 1996). Mitten (2018) discussed this practice as trying to confine women to being meek and helpless as their “appropriate” role in society. In this context, being a lesbian is associated with all the “inappropriate” roles, so women are discouraged from outdoor work – “in large part because they would appear strong and self-confident” (Mitten, 2018, p. 21). Lesbian baiting is harmful to the lesbian community because it attempts to keep both lesbian women and heterosexual women in their respective boxes. Therefore, all women need to show up to and hold relationship with the natural world and the outdoor industry to push back against both the sexism and the homophobia inherent in this nature-based gender socialization.

Providing some history and commentary on the difficulties faced by women in the outdoor industry – and this does not mention the increased difficulties faced by women if they

identify as queer, transgender or are women of colour – offers some background as to the barriers that are faced by women to getting outside and having a relationship with nature. By women reclaiming their space in the outdoor field and nature in general, this works hand-in-hand with women reclaiming their relationship with their bodies through nature connection and positive embodiment.

### **Striving for Positive Embodiment as a Radical Act**

Between diet culture (Javanovski & Jaeger, (2022), societal beauty standards (Cook-Cottone, 2020), patriarchal influences (White, 2018), and women’s own relational interactions that teach body hate, it is hard for a woman to feel proud and in love with her body. As succinctly put by White (2018), “In anorexia we see an individual’s response to society’s control and manipulation of the female form” (p. 35), the idealizations of which are reinforced by family, friends, colleagues, the media, and others (White, 2018). Orbach (2005) in her critical book *Hunger Strike*, placed AN (and arguably all EDs) as a reaction to the inequality of the genders. In the decades following Orbach (2005), White (2018) is still arguing this case. Positive embodiment is rarer and harder to achieve than negative embodiment (Cook-Cottone, 2020) because women are socialized to attempt to fit into the beauty standards and stereotypes decided on by a patriarchal society: vulnerable, frail, weak, and helpless (Mitten, 2018; White, 2018) while also being taught that in order to be successful you must be slender (White, 2018). Women are trained to see defects in their bodies all the time and may feel forced to reach towards an always raising bar of perfection (e.g., “hip dips” were never regarded as an issue until about five years ago, and this led to a new wash of fitness and food routines that were meant to “fix” the “unattractive” hip dips; White, 2018). Therefore, if women are socialized to fix, change, adapt,

and never be content with their bodies then being connected to and in love with one's body as a woman is a radical act.

### **The Current Study**

EDs are a common mental health disorder with complex needs for treatment and recovery and may be supported and prevented through embodiment and attunement with one's body, which has been shown to be possible through regular engagement with nature. The primary purpose of this study was to explore how time spent in nature is experienced by women who have suffered from EDs. A secondary purpose is to examine the accessibility of nature as a recovery resource for women with an ED history. The current study asks the question: how do experiences in nature impact ED recovery in everyday life?

### **Chapter Summary**

EDs are one of the deadliest mental health disorders (Walsh, 2017) with a high relapse rate (Berends et al., 2016) and a complex treatment (NCCMH, 2004; NICE, 2020). One of the most common experiences of people suffering from EDs is a lack of embodiment and disconnection from their bodies (Piran, 2017; Cook-Cottone, 2020). As such, increasing positive embodiment and the positive relationship with one's body is a means to help support those with EDs towards recovery (Cook-Cottone, 2020). Time spent in nature has been shown to increase embodiment (Monteleone et al., 2017; Lumber et al., 2017) as well as have positive benefits on human health in general (Barton, 2009; Stigsdotter & Grahn, 2011; Sahlin et al., 2014). Recent studies have shown positive effects of people with EDs spending time in nature in a Scandinavian setting (Corazon et al., 2018; Jepsen Trangsrud et al., 2020b; 2021), and the focus of this research is to examine this same phenomenon in a Canadian setting.

## **Chapter Three**

### **Methodology**

This chapter provides an overview and description of the research methods used to answer the questions of this thesis: *how do experiences in nature impact ED recovery in everyday life?* While the primary objective of this thesis is to examine the impact of experiences in nature on ED recovery broadly, a secondary objective of this research is to examine the accessibility of nature as a recovery resource for women with an ED history. To begin, this chapter describes the history, benefits, and critiques of Thematic Analysis (TA), followed by a discussion about constructivist epistemology while using TA and its applicability to this study. In the final section, this chapter will address the detailed procedures and the ethical considerations for this study.

### **Thematic Analysis**

Thematic Analysis (TA) is a long-used qualitative methodology of identifying themes in data, but is a method with a history of debates and ambiguity (Tuckett, 2005; Braun & Clarke, 2006; Terry et al., 2017) where “anything goes” (Braun & Clarke, 2006, p 78). Some researchers argue TA is a process used by qualitative researchers (Boyatzis, 1998; Holloway & Todres, 2003; Ryan & Bernard, 2000). However, others claim it as an independent method (King, 2004; Leininger, 1992; Thorne, 2000) with Braun and Clarke (2006) even stating that TA should be seen as a “foundational method” (p. 78) for qualitative analysis. TA is a method that organizes and describes data sets in rich detail through systematically identifying, analyzing, and reporting patterns in the data (Braun & Clarke, 2006). A systematic approach to qualitative data analysis provides researchers with a way to transparently communicate the analysis to readers (Malterud, 2001). TA is flexible and can be used with different epistemological paradigms, from

realist/essentialist to critical realist/contextualist to relativist/constructivist (Terry et al., 2017), which allows TA to be used in a variety of contexts. Researchers can approach TA through a deductive or inductive approach, through either a top-down or bottom-up approach, which again allows for flexibility in the researcher's theoretical orientation and desired approach to data analysis (Alhojaulan, 2012).

### **The History of Thematic Analysis**

TA has been constantly questioned for its viability as a methodology even after the landmark paper by Braun and Clarke (2006) clarified the approach and claimed TA as a method in its own right. TA has since become more well-known (Terry et al., 2017) as a methodology that is used to analyze data in great detail and present themes while focusing on interpretation of the data (Alhojailan, 2012). However, there is still confusion about what TA is, how it can be applied in a rigorous and relevant way, and where it can be used (Terry et al., 2017; Nowell et al., 2017). Critics suggest that this is because researchers often do not state their theoretical orientation (Terry et al., 2017) and usually discuss the researcher as passively observing the themes “emerging” from the data (Braun & Clarke, 2006, p. 80). TA involves choosing one's epistemological stance and collecting data while noting down initial observations. The researcher then familiarizes themselves with the data before creating codes that captures the essence of the data (Braun & Clarke, 2006; Terry et al., 2017). The researcher can address the data in an either (or primarily) inductive or deductive approach and then either (or primarily) semantic or latent coding approach. An inductive approach means that researcher uses a bottom-up approach. The patterns are identified from the data itself and the researcher codes without trying to fit the data into a pre-existing framework (Braun & Clarke, 2006). If the researcher takes a deductive approach, they will use a top-down approach and bring an existing theoretical concepts or

theories that provide the patterns or themes, which will offer what “meanings” are coded (Terry et al., 2017). Semantic codes are more surface codes that describe and summarize the content of the data whereas latent codes are interpretative that aim to reach the underlying stories in the data (Terry et al., 2017).

### **Benefits and Critiques of Thematic Analysis**

Because of the rich discussion of the nature of TA, there are number of benefits and critiques stated within the literature. First, TA is flexible and compatible with essentialist and constructionist paradigms (Braun & Clarke, 2006), which means researchers from various theoretical orientations can modify TA for use with many studies. Second, because TA does not have a pre-existing theoretical framework or a required detailed theoretical or technological foundation (unlike approaches such as Grounded Theory), TA is accessible to a beginner qualitative researcher (Braun & Clarke, 2006; King, 2004). Third, TA is appropriate for numerous types of studies, for example, data interpretation, both deductive and inductive approaches, analyzing two different phases of data, and for coding and/or categorizing patterns and the relationship between them (Alhojailan, 2012). Fourth, TA is useful for summarizing key features of a sizable data set due to its adherence to a systematic approach (King, 2004)

TA’s critiques follow its benefits. First, there is a lack of literature on TA in comparison to other approaches, such as ethnography or grounded theory, which can confuse a researcher new to this method (Nowell et al., 2017). Second, TA is not pre-packaged and formally built, leading to inconsistency in the literature. Although this allows for the advantageous flexibility, it often means researchers discuss their analysis in a passive way: themes “emerge” from the data or were “discovered” (Braun and Clarke, 2006). Researchers regularly do not describe the process of their analysis and theoretical orientation (Malterud, 2001; Braun & Clarke, 2006), and

thus deny the active role of the researcher in identifying themes, areas of interest and then sharing them with their audience (Braun & Clarke, 2006). When researchers are not clear about their analysis process, it may call into question the trustworthiness of the analysis itself (Nowell et al., 2017). Braun and Clarke (2006) clearly stated that it is important for a researcher to match their theoretical framework with their methods as well as clearly state the rationale for these decisions. Terry et al. (2017) state the *need* for TA to have clear theoretical underpinnings. Therefore, in this chapter, I clearly describe my analysis process and my own active role in identifying themes of interest and how I determined – with input from the participants – what were the most pertinent outcomes of the data. Second, there is a tendency for researchers to mismatch their theoretical orientation and the actual form of TA they take (Braun & Clarke, 2006), for example, they state a social constructionist epistemology but they use a realist approach that suggests universal “truths” of reality.

### **Epistemological Approach to the Current Research**

As a researcher, I come from a social constructionist epistemology. Social constructionism holds the belief that knowledge is socially created and exists within a social context (Tuckett, 2005; Terry et al., 2017). This means that there is no one universal truth but rather that multiple constructions of meaning are possible. Each individual creates their own truth that is based in the social context. I am not approaching participants to find evidence of a reality but my focus is on their words and how they produce “particular realities within the speaker’s and hearer’s culture” (Terry et al., 2017, p. 21). In short, knowledge is co-created between researchers and participants via their social interactions (Terry et al., 2017).

There is a concern that researchers can utilize their social constructionist position to mold their data to their ideas; however, this can be managed through using reflexivity. Researchers can

consistently evaluate and reflect on their interest, biases, assumptions and social positionality to assess how it is affecting their research and analytic process (Berger, 2015). To add further rigour to the research process, I co-conducted this research alongside two experienced supervisors to ensure the process of data collection and analysis was conducted in a way that honours what is shared by participants (Burke Johnson & Christensen, 2019).

I also used a semi-structured interview approach to ask participants a series of prepared, but open-ended, questions (Ayres, 2008). I developed open-ended interview questions prior to meeting with participants to guide me in attending to the queries of this research project while still allowing for participants to answer the questions in a way that honours their experiences. The open-ended nature of the questions also supported rapport building (Ayres, 2008). Due to the lack of research in this area, it was important to balance the knowledge gained by the previous studies (Corazon et al., 2018; Jepsen Trangsrud et al., 2020b; 2021) while also gathering the experiences of the participants to help guide future research (either quantitative, larger samples of qualitative, or more specific qualitative research) that is presently not possible with the knowledge currently published. Researchers need to grow this research area by building up the knowledge around common characteristics and gaining a firmer standpoint (Burke Johnson & Christensen, 2019) on the essence of the experience people with EDs have while spending time in nature.

In conjunction with my social constructionist epistemological stance, I used TA with an inductive and latent approach. I identified the themes via a latent approach because it was important to look beyond what the person was saying semantically to what underlying ideas, assumptions, and conceptualizations the person was sharing (Braun & Clarke, 2006) about their experience of supporting ED recovery through connection with nature. I analyzed the data

without previously existing themes or ideas and without trying to fit the data into existing concepts, while reflecting on and understanding that I hold inherent biases, hopes, and expectations for my data and study. To ensure these are held accountable, I followed the suggested procedure outlined in Braun and Clarke (2006), completed multiple read-throughs of the data and themes, and used member checks.

### **Rationale for Thematic Analysis from a Social Constructionist Lens**

I used TA to analyze interviews. TA focuses on finding themes within the data (Burke Johnson & Christensen, 2019), but there is no clear consensus on how to do it (Braun & Clarke, 2006). As both a beginner in qualitative research as well as a researcher examining a topic with little extant studies, TA was deemed the most appropriate analysis, given its flexibility as well as its foundational nature in qualitative research (Braun & Clarke, 2006). TA also does not require detailed theoretical and technological knowledge of approaches, and can thus be more accessible to a beginner (Braun & Clarke, 2006). Due to the flexibility inherent in TA, this allowed me to collect a broader range of themes that would not have been possible with other analytical methods.

In one of the three previous studies on this topic, Jepsen Transgrud et al. (2020b) used Interpretive Phenomenological Analysis (IPA) to analyze their data on participant experiences of ED recovery and time spent in nature. However, IPA focuses on the experience of being in nature for that particular person in that particular place and time (Burke Johnson & Christensen, 2019), which restricts the thesis from a broader discussion of what their experience in nature is like beyond the singular person. Narrative inquiry was another possible approach to analyze the data. Narrative inquiry focuses on how a person tells their story and how meaning is expressed within the story (Burke Johnson & Christensen, 2019), which does not align with the intention of

this thesis which is to gather experience and meaning of time in nature itself. Furthermore, since there has been so little research on the client's experiences and perspectives of ED recovery (e.g., D'Abundo & Chally, 2004 is one of the only studies currently known to me) and minimal research into client's experiences of ED recovery with nature (to date, there are three; Corazon et al., 2018; Jepsen Trangsrud et al., 2020b; 2021), it was vital to capture to the experience of ED recovery in interviews like those conducted in this study in order to get a sense of where best to direct future research inquiries (Burke Johnson & Christensen, 2019).

## **Procedures**

### **Participant Recruitment**

I recruited participants through a post in a newsletter sent out by a distinguished body image and ED researcher, which is subscribed to by over 1000 researchers, mental health professionals, and others with a professional interest in body image and EDs, mostly within the USA and Canada. Participants were also recruited via NIED's social media (see Appendix A). The post provided general information about the study, inclusion and exclusion criteria, and contact information for those who were interested in participating (See Appendix A). Inclusion and exclusion criteria were as follows:

- Participants must be over the age of 18 (i.e., a legal adult)
- Participants must have previously received a formal diagnosis of an eating disorder, including AN, BN, or BED.
- Participants must currently be in recovery from the diagnosed eating disorder and have been in recovery for at least two years. This is to ensure recovery stability, given that his research does not involve a psychotherapeutic component.

- Participants must have been socialized as female throughout infancy and childhood, but do not currently have to identify as female.
- Participants must not have impaired perceptions (e.g., psychosis), a current active ED or a mental health diagnosis that will impair their ability to participate in the current study willingly and with informed consent.

Given that EDs disproportionately affect women (NEDA, n.d.) and that women have historically experienced barriers to being in nature, this population (i.e., women who have previously been diagnosed with an ED) was identified as ideal for the current study. However, a binary conceptualization of gender excludes those who may not fit into this category, such as transgender or non-binary individuals who may have been socialized as female in their early developmental years. Thus, all individuals socialized as female during infancy and childhood were eligible to participate in this study as they would have been subject to socialization that included a slender frame as the beauty ideal (Sypeck et al., 2004) and therefore would have this experience to share. People who identify as transgender and non-binary often have higher levels of disorder eating behaviour than cisgender people (Jones et al., 2016; Gordon et al., 2021), and this combined with social stigma can exacerbate disordered eating behaviours (Brewster et al., 2019; Gordon et al., 2021).

### **Data Collection and Analysis**

I followed TA data collection and analysis procedures from a social constructionist lens, therefore data collection and an analysis took place concurrently (Braun & Clarke, 2006). To ensure I am transparent, I have outlined how the data was collected below.

**Informed Consent.** Data was collected over a four-month period (January to April of 2023). Informed consent forms (see Appendix B) were sent to participants via e-mail prior to the

interview to give participants time to review them. In addition, I reviewed informed consent with participants at the start of the face-to-face online interview and answered any additional questions prior to beginning the interview.

Participants also filled out an online demographic form (see Appendix C), which included gender identity, gender socialization as a child, age, highest level of education attained, income status, ethnic background, and information related to ED diagnosis and treatment. Specifically, the participants were asked to report which ED they were diagnosed with, what age they were when the diagnosis was given, and for how long they have considered themselves in recovery.

**Interviews.** Because of the lengthy interviews and the desire for context-based, rich descriptions of the consciousness and experience of a phenomenon (Burke Johnson & Christensen, 2019), a smaller number of participants was recruited for this study. Furthermore, given the lack of research around EDs and nature in general, as well as in a North American context, this study was a pilot study to examine how people who were socialized as female in North America may turn to nature for support in their ED recovery. As a pilot study, a smaller number of participants were recruited to gather a commencing understanding of how time in nature may impact ED recovery and maintenance. I conducted six semi-structured interviews that lasted approximately one to one and a half hours each. The interviews were conducted face-to-face online over Zoom. The semi-structured interviews had open-ended questions that allowed participants to focus on the topics that were most significant for them. For the list of semi-structured interview questions, see Appendix D.

I used Zoom-created transcripts and reviewed them twice for accuracy. to increase accuracy and contact with data. By transcribing all of the interviews, I began the process of familiarization with the data, which is the first step of TA.

### **Thematic Analysis Methods and Data Analysis**

Since TA is flexible and can take many forms, I chose to follow the form laid out in Braun and Clarke (2006). In their landmark paper, Braun and Clarke (2006) outlined six phases for researchers to follow. Importantly, the process of analysis in TA involves constantly moving back and forward between the entire data set and the coded extracts of data being analyzed (Braun & Clarke, 2006). This ensures there is consistent reflecting and checking on the data being analyzed.

**Phase 1.** The first phase was familiarization with my data. I transcribed data, read and re-read the data while noting down any initial ideas. Through repeated readings of the entire data set, I was actively searching for meaning and patterns. I wrote notes and ideas down for possible future codes that I then approached intentionally in phase two.

**Phase 2.** The second phase involved generating initial codes through identifying interesting features in the data in a systemic way across the entire data set. Since I took an inductive or data-driven approach to coding, I created initial codes that were based on the data which identified interesting aspects and patterns that could become themes. Each data item was given equal and full attention and I worked systematically through the entire data set and coded for as many potential themes and patterns as possible. I kept the codes inclusive and open to be changed. I also collated my coded into potential themes.

**Phase 3.** In phase three, I refocused onto a broader level and sorted codes into my potential list of themes and subthemes. To help with this, I considered the themes in an electronic

format and through discussion with my supervisor. The codes either fit into a theme, became a potential subtheme or did seem to fit at all, which was dealt with in phase four. In Braun and Clarke (2006), they ask what counts as a theme. For this study, a theme was considered a theme if it was well-represented within the majority of the participants' interviews.

**Phase 4.** After creating my potential themes, I started phase four, which is reviewing themes. To do this, I went back over my entire data set and coded extracts to generate a thematic map of the analysis with an effort to ensure both internal homogeneity and external heterogeneity. Internal homogeneity means that the data within themes cohere together meaningfully and there are no codes or extracts that do not fit (Braun & Clarke, 2006). External heterogeneity in themes meant the themes have clear and identifiable distinctions between them, so there are no themes that bleed together or could be confused (Braun & Clarke, 2006).

To review themes, I followed Braun and Clarke's (2006) two-level review suggestion. The first level was to review the coded data extracts and ensure that they form a coherent pattern. If the extracts did not form a coherent pattern, I then considered if the theme was problematic (it did not seem to align with the research question) or if there were data extracts that did not fit within the theme. I would then rework the theme, create a new one, or discard a theme or any extracts that did not fit. The second level of review was to complete the same process but for the bigger scale of the entire data set. I considered the validity of each theme relative to the data set. I again reworked a theme, created a new one, or discarded a theme. After this, I reviewed the thematic map I previously made to ensure that this accurately reflected the distinct meanings in the data set. To review the maps and ensure it was accurate, I re-read the entire data set to make sure my themes were truthful to the data set and to code any data that had been missed earlier.

**Phase 5.** Phase five began after I ensured the thematic map accurately spoke to the data. Phase five involved defining and naming the themes. Again, this involved continuous analysis to refine each theme and the overall story the analysis told. Throughout this phase, I worked to identify the essence of each theme and named them in way that succinctly captured its essence. I revisited the collated data again and wrote a detailed analysis of the theme of each group of collated data. While doing so, I identified what themes were major themes and which held subthemes. To ensure that I understood my themes and that these themes were clear, my supervisor and myself discussed and outlined a one- to two-sentence explanations of each theme. This method of testing is suggested in Braun and Clarke (2006) as a means to confirm a researcher's understanding and clarity of their themes.

**Phase 6.** Although writing the report and analysis begins during data collection, this final phase focused on producing and refining the report of the analysis. I chose the extract examples that were then used within this thesis to support the validity of themes and analysis. I chose some extracts that were illustrative of the themes (the extracts illustrates key elements of the story; Terry et al., 2017) and other extracts that were analytic in nature (the extracts supported features of my analytic claims and go beyond the surface of the data; Braun & Clarke, 2006; Terry et al., 2017).

### **Ongoing Comparison, Persistent Reflexivity, and Continuous Analysis**

As part of practicing rigorous research, I maintained practices that aligned with the literature. First, I understood that analysis begins with data collection, as discussed in Braun & Clarke (2006). Second, there must be ongoing comparison of what had been done with the data and new read-throughs. This involved re-reading, reviewing, and reworking the codes, themes, and interpretations. Finally, a key aspect I held in front of my mind was reflexivity, which is

researcher's duty to be self-critical of the research process (Tobin & Begley, 2004). All research is subject to the bias, assumptions, social positions, and the theoretical orientation of the researcher(s) (Milner, 2007), therefore, this must be constantly reflected upon. Throughout data collection, analysis, and writing, I reminded myself of my biases, assumptions, social location, and theoretical orientation. I did so by keeping a reflexive journal to record work, methodological decisions and rationales, and ongoing personal reflections on my values, biases, and assumptions and how these may impact my work.

### **Ethical Considerations**

The University of Victoria Research Ethics Board approved this study. Participants received \$30 CAD as compensation as a show of gratitude for their participation in the study. To ensure the semi-structured interview questions did not lead participants to provide specific answers, the questions were crafted in such a way that they were not leading. Further, participants were told that they did not need to answer anything with which they were uncomfortable. The participants were also told they could end the interview at any time without any explanation given. Since the interviews could bring up strong feelings, a distress protocol was needed. The participants were given information in the informed consent form and verbally at the start of the interview on resources they could access after the interview if they did experience distress. The study required participants to discuss their ED, some of its effects on them, as well as their views of nature and its healing benefits. The participants were eligible to participate because they were reportedly recovered from their ED, therefore, they were not as vulnerable as an individual currently in treatment with active ED symptoms. However, discussing their ED had the possibility to be distressing or triggering, as such, a distress protocol was developed and outlined in the consent form (see Appendix B).

Data storage is a place of concern for ethics (Hesse et al., 2019). For this study, there were many steps taken to ensure the ethical and confidential storage of data. My supervisor and myself were the only people to have access to the confidential data. Further, electronic data files (audio/video recordings and transcripts) were stored on password protected USB drive in encrypted files. Also, during informed consent, each participant chose a pseudonym that was attached to their personal information. Any accessible data from this individual was only associated with that pseudonym. The consent forms were part of the demographics survey and the digital files were also kept on the USB which only myself and my supervisor had access to.

### **Evaluating Thematic Analysis**

It is important to follow methods for evaluating qualitative research. To ensure high internal validity, a second “sample” coder was used. The second coder (i.e., my supervisor) read samples of the anonymized data to check validity and reliability of the codes and themes determined by the primary coder. Additionally, the thesis used member checks. After the transcripts were transcribed, the participants had the option to read through their interview to offer any feedback to the author. This ensured that their voices are being centred in this thesis. Furthermore, Terry et al. (2017) offered a checklist for assessing the process of completing, which was used through the analysis process to guarantee ongoing reflection and honour of the data and its analysis. Further, Nowell et al. (2017) outlined an approach to establishing trustworthiness in qualitative research. They argued that trustworthiness is a way for researchers to convince readers that their findings are credible, valid, and worthy of attention. (Lincoln & Guba, 1985). In this thesis, I followed trustworthiness criteria outlined by Lincoln and Gruba

(1985) and recently tested by Nowell et al. (2017). The criteria are: credibility, transferability, dependability, and confirmability.

Credibility is described as determined by the “fit” between the participants’ views and how the researcher portrayed them (Gruba & Lincoln, 1989; Tobin & Begley, 2004). To address credibility, a researcher can employ prolonged engagements, persistent observation, data collection triangulation, researcher triangulation, and peer debriefing during the process (Lincoln & Gruba, 1985). Transferability is the study’s generalizability (Nowell et al., 2017), but only in case-to-case transfers by other researchers (Tobin & Begley, 2004). Dependability is how the researcher explain the process: is it logical, traceable, and clearly documented (Tobin & Begley, 2004)? If the readers can answer in affirmation, the research is deemed more dependable. Finally, confirmability is assessed by seeing if the final interpretations and findings clearly come from the data, which means researchers need to be transparent on how they reached their conclusions (Tonbin & Begley, 2004). I have done so in this thesis by clearly walking through my theoretical orientation, methodology, and process of analysis.

### **Ensuring an Anti-Oppressive Approach**

One final design idea was to consult a community group to ensure the study attends to the community's needs, which is vital if one is working from a social justice mindset (Milner, 2007). Unfortunately, due to time and financial constraints, I was unable to create and adequately compensate a community group. However, I wanted to do what I could to follow participatory action research guidelines. Therefore, I used members checks, which is also consistent with anti-oppressive and community-oriented approaches to research practices (Milner, 2007). To do this, I sent transcripts of the interviews and later a preliminary report back to the participants to

review so they can have a voice in ensuring their truth is being heard. I received an email from all six participants to confirm that they approved of their transcript.

### **Chapter Summary**

Thematic Analysis is a flexible and accessible methodology that was used to answer the present thesis's research question: *how do experiences in nature impact ED recovery in everyday life?* I approached the data with a social constructionist epistemology that assumes that multiple realities exist. The process of analysis utilized TA as described in Braun and Clarke (2006) with a semantic approach to coding the data set.

## Chapter 4

### Results

Six participants were interviewed about their experiences of how spending time in nature affected their ED recovery and maintenance of recovery. The participants completed a short demographics survey and then participated in a one-hour semi-structured interview. Interviews were then transcribed and analyzed using Thematic Analysis (Braun & Clarke, 2006) to generate themes across the data.

### Demographics

Participant demographics are presented in Table 1. In terms of socioeconomic status, participants stated a range from \$1 400 up to \$80 000 average yearly income (all incomes were converted to CAD). Three participants were from Canada and three were from the United States of America. Four participants reported being 2 – 5 years in recovery, one reported being 1 – 2 years in recovery, and one reported being more than 10 years in recovery.

Table 1. Participant Demographics

Pseudonym	Age	Sexual Orientation	Current Gender	Racial/Ethnic Identity	Highest Level of Education	Diagnosis
Alayna	25	Heterosexual	Female	White	Undergraduate	AN
Layla	29	Heterosexual	Female	South Asian	Masters	AN, BN, BED
Sam	45	Heterosexual	Female	White	Masters	AN, BN
Hank	32	Heterosexual	Female	White	Highschool	BN
Melody	31	Heterosexual	Female	White	Undergraduate	AN
Molly	26	Bisexual	Female	White	Highschool	AN, BN

### Historical Relationship with Nature

Prior to being asked about nature during their interview, four out of six participants directly named nature as one of their essential supports throughout their ED recovery and maintenance. All six participants reported positive and impactful experiences of nature in relation to their ED as well as their general wellbeing.

All participants were asked about their relationship with nature prior to the start of their ED. This was to examine whether or not there was some comfort or relationship already present before they began to spend time in nature in relation to ED recovery and maintenance. All participants expressed spending a lot of time in nature as children. Three of the participants described themselves as “outdoorsy” and were involved in high-level sports as children while also playing outside every day. The other three participants did not describe themselves as “outdoorsy” but did spend their childhood playing outside either in city parks or on their family’s farm.

“Yeah, so growing up, I think I – I had a ... neutral to positive relationship with nature in that, um, I really enjoyed ... being outside and like, one thing that I remember a lot is, like, scrambling on rocks ... I just wanted to be outside, and like, play outside, and, like, run around barefoot, like, I’d ... I think there was this restlessness where I would want to be out and about, and like, be outside as much as possible, so like that, I think nature, I don’t know if I really thought of it that way, but it definitely had a presence in my life and it was something that, I think, brought me joy, especially being in the sun for instance and like having the warmth of the sun.” – Layla

“I was on the [ski] team at my high school, so I would go to practice outside every day in the winter, and I also grew up going to my family's cabin on the [place] in [State], pretty much every weekend throughout the spring, through the fall and going canoeing. And yeah, our family would always join, like, relatively outdoorsy, like, vacations. We go like downhill skiing and cross-country skiing and camping, so I had exposure to the outdoors at a pretty young age, which was really awesome.” – Alayna

“And I think that's because, like as a little girl, I would spend tons of time in nature, like I had a pet deer, and I have a cabin, where there's, like, nobody can get, you can't drive to the cabin, there's an outhouse, and there's no electricity, and all these kind of things...” – Sam

“I grew up-most of my childhood was spent in [place], so the year-round yard work. But I did play a lot outside, and rode bikes and played [game], and, you know, played outside with friends. I'm not an athlete, so I can't say that that is part of my experience of nature, really.” – Hank

“Yeah, I mean, as a kid, all we did was play outside, \*laughs\* you know, when you could stay outside till 10 o'clock without getting trouble from your neighbours. And I always – I've always had like a really creative mind, so, I always really enjoyed being outside and making up like games or scenarios. And you know, running around...” – Melody

“It's also, like, one of the only things I had, and as a kid, like, I had my sister and cats and animals and nature and I didn't really have anything else, because I didn't live around like a group of kids... So, we spend a lot of time outdoors, like most kids do. I think, you know, just like just you can find so much amusement in nature - it's amazing: mud pies and worms and birds. And I think there was a time in my life where I was super alienated from it, like I said, that's when I was really not doing so well - I didn't care about [nature], or I didn't see maybe like the value in it.” – Molly

### **Major Themes and Subthemes**

There were two overarching themes found through the analysis: *Embodiment* and *Meaning of Nature*. Themes and subthemes identified in the data are deeply interconnected, just as nature is interconnected. Nature houses an infinite number of interconnecting ecosystems, so it is fitting that nature's impact on people would also be interconnected and not easily categorized into themes or subthemes. One significant overarching pattern in participants' experiences was appreciating the uncontrollable quality of nature. The suggested meaning of “uncontrollable” among the participants was something that does not fit into boxes and is not easily controlled by the rigidity of aspects of Western society. It is not chaotic or negative, but rather a freeing from the expectations and control that are put upon women's bodies. The interconnectivity of themes and subthemes is important to mention, because nature does not conform to human-enforced boundaries and, instead is wholly interconnected. What was shared by participants aligns directly with this idea of interconnection. Therefore, although the results are presented as separate themes and subthemes, it is vital to understand that each theme and

subtheme is inexorably interconnected and intertwined with every other theme. Although the themes are interconnected and intertwined, they are still able to stand on their own as independent concepts.

### **Embodiment**

In Chapter Two, the concept of embodiment (i.e., a feeling of connection with one's body (Piran, 2017; Cook-Cottone, 2020) was discussed as an essential concept in understanding and treating EDs. In this study, participants expressed that embodiment was an important outcome of spending time in nature. Embodiment was connected to feeling functional and capable within their body and disembodiment was described as feeling disconnected from one's body and viewing the body as an enemy. Molly and Hank provided general statements of embodiment while answering the interview questions:

“I think I for me, when I was really, really unwell, [embodiment] would just like literally mean like feeling my body - like literally knowing that I just exist and not in like sort of like weird aesthetic way, like literally just like being able to be like okay, “my legs are doing this” and I think now for me being embodied – now that I have a way better relationship with like myself is like, I think, like realizing myself in the world, rather than just like it becomes one of the expansive thing, I think, embodiment to me like means realizing I am a person within the larger - I'm a person but I'm also part of something larger, I guess.” – Molly

“So, being a vessel for perceiving something that's beautiful or interesting, or being able to like, move through nature, or do something in nature, right, is less about what it, what I look like, and more about what I am doing and what my body can do for me, or allow me to do and allow me to perceive, and there is something, I guess it's similar when I think of - cause I volunteered in animal shelters-and there is something very comforting about being around people who sort of devote their time, their energy, and very much value, you know, doing things in nature, or caring for animals, because more often than not those people are wearing clothes that are very utilitarian, and they've got their hair up, and they get dirty and, like, it doesn't really matter what shape or size you are or whether you look great, like, you're just there to do the thing that you really care about.” – Hank

Spending time in nature encouraged two clear processes that participants described as supporting an increased feeling of embodiment. The first was a greater sense of freedom in and

of their bodies instead of restriction and punishment in and of their bodies. The second was that nature helped slow them down and allow their bodies to be “uncontrollable”.

**Freedom and acceptance versus punishment and restriction.** The first subtheme of *Embodiment* is *freedom and acceptance versus punishment and restriction*. Participants discussed that, when they spent time in nature, they experienced freedom in relation to food and physical movement as well as freedom and acceptance towards their bodies. They reported that this experience of freedom continued once they returned indoors but that it was time-limited. They shared that if they did not regularly return to nature the ED thoughts and negative body image would regain strength in their minds. This freedom occurred in conjunction with the therapeutic work that they were doing and differed in experience for all participants. For instance, Melody said “...and I remember noticing the days where I didn't do [go outside] - I felt like my day, potentially, didn't turn out as well as it could have if I had started with that really strong foundation.” Similarly, Alayna shared that nature helped her “feel small” in the way that it made her problems seem small and insignificant in relation to being a part of a larger system. In relation to “feeling small,” Alayna said:

“... sometimes I don't want to like – sometimes I wake up in the morning, and I force myself to go outside...and sometimes I don't want to cause I want to, like, deal with or I wanna, like, I feel, like, there's some part about... stress and anxiety that it - a little bit, like, it pulls you in. You want to feel it cause you wanna get those issues sorted out, so sometimes it is kind of like I don't wanna go outside, but I think I have to. I think I have to go and like feel small again.” - Alayna

A few participants, when discussing their relationship with nature as a child, discussed a sense of freedom and being care-free when playing outside. They shared how it was “just what you did” and it was not questioned. For example, Melody shared that she spent most of her days outside as a child, and how she lost this sense of freedom while in her ED, but then found it again through reengaging in her relationship with nature:

“...[as a child] it wasn't like a second thought about, you know, when I was running, if something was jiggling, or whatever, like, it's just, it's a total-total sense of, like, freedom and you're not worried about your limits. You're not worried about, you know... there's no, I guess kind of no barriers is how I would put it. And yeah, just, I'll like, I probably spent more time - well, okay, maybe not more time, but close to more time outside and active [as a child] and I think there were probably more periods as I got more into my eating disorder, where I really tended to close off and stay inside, and...kind of just hide myself from the world ... cause...it felt just easier to, in my mind, deal with it, but [I would] not actually be dealing with it. And, you know, I didn't necessarily wanna go outside ... in those periods, in, you know, shorts in the summer or a bathing suit, because I didn't feel like I deserved it, whereas before that, you know, I just didn't care because I wasn't aware of it.” – Melody

Self-punishment is a common experience in EDs (Cook-Cottone, 2020), and was discussed by all participants. Punishment was described as the behaviours one would engage in to “punish bad behaviour” of eating or not exercising enough. People suffering from EDs also often feel “out-of-control” in their lives, which results in a high need for extreme control and rigidity (Cook-Cottone, 2020; D’Abundo & Chally, 2004). As a result, people suffering from EDs often punish themselves through behaviours, such as severe food restriction, food avoidance, eating past the point of comfort, and compensatory exercise (Cook-Cottone, 2020). Participants mentioned the punishment was maintained by a few mechanisms supporting the ED, such as diet culture, societal standards of beauty, and the male gaze. Punishment was described as being the opposite to freedom. For example, Layla said:

“So, I think, so since the eating disorder started with exercise, I mean, of course as you know, played a really big role \*laughs\* at the beginning of it and yeah, so it was very much like a punishment mindset for most of the years I was in my eating disorder. If I did exercise, it was always these expectations and it was very hard to be consistent because I was so scared and I would be mad at myself and it was usually to compensate for eating in some way.”

Similarly, Melody said “But yeah, [nature] just - it really, I think, helps me be more aware and connected to my body when I spent so many years trying to... I think, probably, disconnect is the word I would use, and to punish it, or punish myself for so many years.” Sam described running

as a behaviour that was previously connected to punishment, but that she now experienced as freedom:

“Yeah, it's kind of funny, because it's sort of like a double-edged sword, like I did a lot of running and running was contributing to my eating disorder. But it was also, like, supporting me, and depression so, like, I love running because I get to be outside and I can do it anywhere. And, but it also, like, kept me, like, kept me thinking that I could eat, like, I deserved to eat, because I was running enough. But I think that, like, primarily I think I did it so that I felt like – like healing rather than destructive.”

In contrast, freedom with food and exercise was described by participants as including behaviours such as recognizing when the body is hungry or satiated, what food the body wants, enjoying food without compensation, finding enjoyable physical movement, and resting when needed. All participants expressed experiencing freedom when they spent time outside. Three participants shared that their ED voice would quiet or dissipate when out in nature because there were other things on which to attend. For example,

“...thinking back on it now, like, any eating disorder voices were, like, totally gone in those moments, or close to totally gone, like I-I wasn't thinking – I wasn't thinking about, you know, oh are my pants too tight, or oh if I move, is, you know, is something going to ride up or is something hanging out...like it was there just no space for those thoughts, because I think like the, you know, the air and the sun and the sounds in the forest. All of that was taking up all of that space.” – Melody

Participants also shared that moving their bodies outdoors helped them feel connected to their bodies and their body's needs. For example, Melody said:

“I would say, being in nature definitely fuels me. I definitely know it's probably where I'm the happiest. And even though I know that sometimes I have to give myself a bit of a kick to actually go out and partake in it, I really enjoy, especially, you know, being in the woods, whether it's on my own or with, you know, friends, or whatever, I really – it just really grounds you, and I find that it really...especially when you're in a place where you're punishing yourself for fueling your body ....you realize how important that is because you realize how much your body is actually capable of doing when it's hiking a mountain. Or, you know, getting lost 10[km] down a logging road. \*laughs\*”

Nature also supported participants in finding a healthy relationship with movement again. For example, Layla said:

“I feel like I’ve developed a healthy relationship with movement and, like, and rediscovered how much my body has naturally liked movement which I hadn’t – I think I was mourning for a long time because I was so scared of movement and, like, that could be healthy for me. It became – the eating disorder confused me so much, like, do I actually like exercise or is this something that I’m always gonna feel like I’m punishing myself with... And so to get to a place now in my life, you know, two or three years later that, like, eating-er- exercise is actually, like, an integral part of my life and it’s not scary just makes me so happy and I think that’s ... discovering that’s a really important part of my recovery.”

Additionally, participants noted that self-awareness was a part of this freedom. Nature helped them be more aware and appreciative of what their bodies were capable of. For example, Melody said “and, also, just more appreciative for my body and what I can do, and that it is important to, you know, to fuel my body, and also just to move my body.”

Societal influences were mentioned by participants as instigators and supporters of ED behaviour. They discussed male gaze or the objectification and eroticized surveillance of women’s bodies by men (Glapka, 2018), social comparison, and the influences of diet culture. Molly shared: “Yeah, I definitely think the male gaze a big part of it.” She continued: “Obviously, you know, being around people is just hard enough, and if I’m with a group of people, I, no matter what, am gonna be comparing myself just because I’m still in recovery.” Hank also shared: “I guess, in the sense of feeling watched... I feel more self-conscious, and I feel like there's always a chance that someone's looking at me or like a evaluating my appearance.”

Layla also noted that while exercising with a group she was always aware, it’s “like, you’re running too slow, or like, do you think you can do it now, like, all these people are watching you”. Sam discussed how diet culture and social media impacted how she viewed the natural process of grief after her boyfriend’s death: “... I remember one day I was like listening to Oprah Winfrey ... and she had said, like, are you eating because you're sad, or are you eating

because you're hungry ... And I'm sad, I'm always sad. So, I kinda just...stopped eating so much.”

All participants discussed that nature increased feelings of embodiment through an experience of freedom in their bodies rather than the common approach of punishment. Participants reported feeling a freedom towards food and physical movement while in nature that was not possible in other settings, like a gym. When asked to compare body image while moving their bodies in the gym versus moving their bodies outside, participants unanimously described a preference for moving their bodies outside. Most expressed a feeling of disgust and discomfort at the use of the words “working out” or the idea of being active at a gym. They shared that working out at a gym often led to feeling watched, feeling exposed, or being more critical of their bodies, whereas being active outside led to feelings of interconnectivity. For example, Hank described moving for purpose rather than moving for the sake of moving:

“Now, things, like, you know, picking, like, dried plant seeds from native species, or, you know, pulling invasive weeds out of a forest or something. I-I don't think about that as much. I mean, that's still movement, but I guess I'm not moving for the sake of movement. I'm moving for the sake of accomplishing something, or like walking my dog, right, like I am walking my dog, or spending time with the dog. I'm not like walking for the sake of walking, if that makes sense.” – Hank

In describing her experience of interconnectivity, Layla said “and so, being in nature and, like seeing animals, and like, when I'm on a run, like, looking for the ducks or the geese \*smiling\* that are there and, like, kind of watching the path helps me feel more calm and connected and... and happy.”

Participants also described how being active outside helped them focus less on how their bodies looked and more on embodiment. For example, Sam said:

“So, so I move my body in many different ways besides just in nature. So yeah, you know what, I think moving my body in nature - it's my favorite, because I love running, and I love water skiing, and I love swimming, and I love cross country skiing. And so

again, I think it just feels more fluid. It just feels like... whereas in the gym I'm worried about what people are gonna think, and if I'm working out – my clothing, and if I'm doing it properly, and you know, being a – being a spin instructor, I was like worried about whether or not I was a good like mentor to the other people that were in the class, if I looked the right way, if I did the right kinds of things, whereas when I'm in nature, and I'm like, oh, cross country skiing I don't worry about that so much. I'm more engaged in what's happening around me, and how calm and peaceful it is, and I feel stronger, I think.”

Similarly, Melody said:

“And I think just, you know, and like, and letting go of, like, some of that self-hatred of the body that - that I have - or had - whatever. And just being more kind of at peace with that, and not really ... I can't think of the word ... perseverating on certain things, you know, about my body or about, you know, what it would do when I moved a certain way or yeah, like, I mean doing things, like doing exercise or doing, like, hikes, and that outside, great, but like you know, being in gym, like I just, ugh, I, yeah, like I just, I never could be comfortable - was never one of those people who was like bouncing around the gym, like, just loving life, it was just, I just felt like I was so on display, even though I was in, like, long pants and long - just felt-I felt like, yeah, like, almost like I was wearing nothing like I-I just felt, but I think that's because I was so uncomfortable in my own skin.”

When active outside, participants shared that they were more able to listen to the needs of their bodies. In describing this, Melody said:

“Yeah, I think there's something to be said for spending time outside versus, like, in a gym \*laughs\* setting. It just makes you, I don't know, it makes you want to actually move. I find, you know, I mean I've done gym thing. It's really not my favorite thing in the world. I'm really bad at motivating myself, but it definitely just - [nature] makes me more aware of what my body can do. And it's less of me trying to force my body to do something that maybe isn't good for it or for me.”

Molly noted that she thinks goals are different when outside versus being in the gym. When she is outside, her goals are to walk to a friend's house or enjoy a forest, whereas indoors in a gym, she is more focused on how she wants to look: “It's absolutely the difference in between aesthetic-based and non-aesthetic-based [goals].” Alayna noted that she does not have expectations for herself or her body when she is active outside. She “can let go of body image struggles”. She continued:

“I think I don't, yeah, I think I don't give my - like the outdoors enough credit for, like, how much it does help me, like exercising outdoors and just, like, being outside in general. It's the one place where I feel like I don't have any – like, if I'm doing, like, an activity that I love, generally it tends to be exercise of some sort, but it's, like, the one place where I feel like there's no expectations for myself, and I don't – I can let go of like-like body image struggles.”

The theme of freedom also extended past food and movement towards acceptance for their bodies. All participants shared they felt an acceptance for who they are and for their body when they spent time in nature. Nature was consistently described as a non-judgemental space. Participants reported that this experience of acceptance was encouraged by the realization that even though nature is imperfect it is still viewed as beautiful and necessary. Participants expressed that this idea could then also be applied to themselves. Molly said:

“Obviously, you know, being around people is just hard enough, and if I'm with a group of people, I, no matter what, am gonna be comparing myself just because I'm still in recovery, I guess, but being with nature kind of just does help me accept those – accept that I am who I am, and ... I know, nature just *is*... I know it's not judgmental.”

Participants talked of nature distancing them from the negative cognitions, providing the opportunity to reset their body image and gave them a choice on how they wanted to approach their body. Additionally, when they were outside, they also acknowledged that they were not participating in societal influences, such as body ideals, social media, even mirrors, that could reengage the ED voice and body comparison. Two participants acknowledged that this lack of engagement with societal influences could have played a helpful role in their recovery. Sam said:

“Well, there's a few things, like, time in nature – when I'm active in nature – supports my body, my relationship with my body in a physical way, so, like, I feel strong, I feel free of the restraints of needing to feel a certain way in my body, like, I don't really think it's, I don't know, I've debated with this so much... I'm not sure if it's like a societal thing where I feel restraints, or if it's I just don't feel comfortable in my body. And they don't know where that comfort - I don't know what that comfort is. I don't - I still don't really know. I think it's probably a combination of a few things, but when I'm outside and I'm in nature, it feels like, you know, like, if you were to be constrained in something it like the I can only think of the word ...shackles, but the shackles lift, and you feel like you don't have those same restraints, and I feel stronger, and I feel like my body feels better on me.

It kind of feels like my body is on-on my like soul and my spirit, right? So, like, my body feels better on my soul. And so, that's, I guess, how it supports me in a physical way, and being in my body. And then like a mental support, would be at least, like, yeah, this just the spiritual part of, like, feeling, like, there's other things that I can use my mind to think about besides, like negative self-talk, or disordered eating, or... Oh, I guess it, like, opens my mind as well, like, both allows my body to be more free, and my mind to be more free.”

Molly also shared:

“Yeah, I think I'm gonna circle back to what I was saying about acceptance literally, just because I feel like there is like so little external influences when I'm in nature, like, I don't have to see billboards or social media all those other, sort of, like, stereotypical things that can influence someone's relationship with one's body.”

In her interview, Molly acknowledged how the absence of external societal influences helped her relationship with her body. This lack of engagement with societal influences of EDs appeared to have a positive effect on their body image. It is well-known that high levels of engagement with diet culture, social media, and self-checking strengthens ED behaviour (Chaerani & Junaidi, 2019; Lladó Jordan et al., 2021; McKinley & Hyde, 1996; Perloff, 2014), largely through social comparison (Saunders & Eaton, 2018).

The participants' expression of body freedom while in nature is in stark comparison to how the participants discussed their body image when spending more time inside. They shared that their body image was often worse and they had to work a lot harder to manage their ED. Sam shared that she has to use significantly more self-affirmations and has to be very aware of how she is thinking when spending more time inside whereas when she is outside everything “just rolls easier”. Alayna noted that when she spends too much time inside, she notices that her thoughts about her body and exercise start to remind her of when she was in her active ED. Whereas, outside, she said it “feels better and more natural ... stopping when I'm tired”.

**Slowing down the ED voice, and being uncontrolled versus controlled.** Many people who suffer from EDs describe an intense need to control everything and often feel very

disconnected from their body (Becker-Stoll & Gerlinghoff, 2004; Brewer et al., 2016; Cook-Cottone, 2020). Regularly, a significant amount of time is spent thinking about food and/or engaging in compensatory exercise as a means to enact this control (Cook-Cottone, 2020; D'Abundo & Chally, 2004). People with EDs often struggle to slow down and attune to their body because their body is a scary place to be (Cook-Cottone, 2020). Participants in this study indicated that nature supports this slowing down as well as supports them in connecting with the idea that their body is a vessel to see beauty and to feel strong and capable without it becoming too overwhelming. Nature was described as being imperfect and uncontrolled and as providing the message that it is okay to lean in and pay attention to what is happening in one's "imperfect" body. For example, Hank said:

“And I think maybe another piece of it is that it isn't man-made, right, and yet it is so perfect! Like the way that leaves are kind of uniformly shaped, and yet, if you look close enough, there are also imperfections. So yeah, I guess there's something symbolic about it as well.”

Alayna shared how nature helps her take up space, which is in direct contrast to the need to be small that diet culture enforces (Harrison, 2017). This connects to the theme of being uncontrolled because she does not have to be small, controlled and restricted. She said, “I think when I said that I think I literally meant, like, I feel like my... it feels like I'm occupying more space. It feels like, yeah ... Just both. Probably both. Like physically and mentally, like, it allows me to, like, occupy more space.”

The participants shared that slowing down and connecting with their bodies was essential for them to reach and maintain recovery, and they had to intentionally incorporate nature time into their regular lives to slow down their brain and not only to calm their mind but reset their body image. Alayna said:

“It definitely acts as like a reset, I think, like, no matter, like, how I'm feeling about my body on any given day. If I get outside and, like, spend time outside it sort of acts as a reset and gives me the choice. The choice, like, when I'm going back indoors, or to whatever I'm doing, like, how I wanna, like, reframe, like, my thoughts about myself and my body.”

Similarly, Molly said:

“I mean, yeah, I think it can look like that. I think sometimes it takes, you know, active steps to get rid of [ED voice]. But generally, I think ... being in nature does make it go away eventually... It'll dissipate. I think, what I think of as clearing the mind. I think there's a sense of urgency or anxiety that I could feel it just, I'm sure most people feel on their day-to-day lives, and I find nature kind of, maybe, slows that down.”

In describing her experience of slowing down, Hank discussed how the term “natural” had been taken over by her ED and, by extension, diet culture. However, through spending time outside, nature seems to have shown her that it is okay to be uncontrolled and within that there is acceptance. Nature may have helped her know that her body is natural:

“So, at least for me, I think the eating disorder leveraged this concept of, like, natural and pure, or like that, you know, my very old, very incorrect thinking, right, or biased, thinking that you know everybody could be smaller if certain things were done, right. That [being smaller is] natural, and being in a larger body is not natural, right, is really interesting. Because it's just so far from the truth \*laughs\*. And so, it's, yeah, the shift in what natural means. Over the course of recovery is really interesting phenomenon in that, what it shifts more to, is kind of like...natural isn't controlled right? It more is a form of neutrality or acceptance, right, that it is what it is, and most things have a source that is something natural. So, and also that like, I guess any – any body is natural, right? Just the same way that you know the flowers outside are natural.”

Overall, the subtheme of slowing down and being uncontrolled rather than controlled illustrates how nature helps the participants slow their minds, connect with their bodies (i.e., to become more embodied), and to know that, just like nature, they do not need to control or be controlled (i.e., do not need to force themselves into boxes).

### **Meaning of Nature**

The second major theme was entitled *Meaning of Nature* and encapsulates three subthemes. Overall, the *Meaning of Nature* theme attempts to capture the reasons behind why the

participants turn to nature in a spiritual and expanded view. Throughout the interviews, the participants shared how nature affected them both in a bodily way (e.g., *Embodiment* theme), but also in a larger-than-self way. The first subtheme is *spirituality or something bigger*, in which participants discussed feeling that when they went into nature they felt a part of something bigger than themselves. They shared that they felt a part of a larger system and more interconnected with other beings on Earth, such as animals, plants, rocks, and other humans. The second subtheme is *peace, tranquility, presence, and joy*, which pulls together comments on how nature made them feel but not in relation to direct bodily sensations, which is encapsulated by the *slowing down* subtheme. The third subtheme, *foundation to recovery and maintenance*, indicates the place of nature in the participants' lives outside of how nature supports embodiment. *Foundation to recovery and maintenance* implies that as participants are moving through their recovery towards maintenance, they shift from turning to nature instinctively to including nature intentionally as a part of their self-care, wellbeing, and interconnectivity practices.

**Spirituality, something bigger, and a sense of belonging.** All participants reported experiencing a sense of being a part of “something bigger” when they go out into nature. They felt more connected to other humans and more-than-human nature. Not only did they feel more connected, but they experienced a sense of belonging, both in relation to other beings, but also belonging in a larger system. In describing this sense of “something bigger,” Layla said “Like, when I think of being in nature, I think a lot of... for me, mindfulness practice, and connection between my body and my humanity with the earth and, you know, natu-what I think of nature, like elements, animals, the environment, the natural world around me.” Similarly, Sam said:

“Like myself, and I think that - that does actually, like, stem from a place of, like, having a solid sense of self, like, within a system within a, within a natural system.....to tell you

the truth, like, I think that, like, knowing that I have worth and you know, deep, deep down somewhere, like I knew that I had worth. And I think that's because, like as a little girl, I would spend tons of time in nature ... I think, just feeling like I'm a part of something greater than myself, and that I'm- that I need, that I'd have a part - that I take part in that place gave me the strength to like pull on the resources that I needed to-to heal, I think.”

Further, Molly said:

“... I think maybe just, like, it sort of involves being present and acknowledging the nature around you, even if there's not much, like, I guess I'm trying to think, like, maybe an example I'm trying to - that I can use to like explain this is, like, when I was living in the city and I was trying to recover - because I moved in and out of the city that during my recovery - even if I couldn't find like a nice river valley spot, like, if I could just try and find a place that had, like, even, like, one tree, and just be hyper aware of it, or hyper aware of the air, or whatever is, like, I guess, natural. I'm not sure how to explain that but maybe yeah, ... like, being in nature is probably not, it's like, I guess it's reciprocal ... it's a connection, like, it's not just being even me being in nature. It's also, like, me being aware of it.”

Participants expressed seeing themselves as a part of the bigger system of nature, where everyone had a role and a place. They were unanimous in this expression of a sense of belonging when connected to this larger system of nature as well as other people. Alayna said “...it feels like, I can kind of just, like, blend into the world.” In discussing this sense of belonging, Layla shared:

“So, I don't like doing weights, I don't like doing machines. If I'm gonna run, I have to do it outside, like I can't do it on a treadmill anymore, it's just not – there's nothing to look at for me and it's all about looking at the trees, like, whether they are dead or alive, like I \*smiles and laughs\* I like to look at them while I'm running and like, feel the trail underneath me and ... see the geese flying or like, I also think that like being outside is a way to connect me to other people.”

This sense of connection and belonging was also shared by Molly, who said:

“Yeah, I think it is like, when I'm with nature, I feel like more connected and accepted. I think nature is, I mean, I guess I know nature is just, like, inclusive of everything and nature has a space - a place for everyone, so maybe I can say it like that. I mean, even in yeah, like, we can see it everywhere. We can see that model, like, there is a space and a place for everything and every creature in nature.”

She continued: “Just like, yeah, connection, which is kind of what I was saying before, I used to think connection was just maybe just like a human thing. But no, it's such a broader thing. I don't feel alone when I'm in nature even if I'm alone, you know.” Layla also described a broader feeling of belonging and connection:

“...and so being able to see other people enjoying nature, and like, being on a walk with their dog or their family, their kids, like, their partners, like, or just themselves, is just really cool to know, like, .... Somehow, during this day, we all landed here somehow. Something led us to this trail and this moment together even though we are not together but we're passing by, and I think that's a really nice way to also feel connected and not only to the environment, but to other people in my world.”

Nature had a way of reminding participants that there was a bigger world than their problems. For example, Layla said:

“I think nature can be really humbling for me..... and remind me that my problems are, there, like, not as important –er, or not as, like, bad as I think they are, nature just kind of -kind of has a way of, like, resetting the-the stage for me, which is really delightful \*smiles, laughs\*”

Similarly, Alayna said:

“I think it's definitely really grounding, and it gives me it like gives me a sense of like being part of a bigger experience. Or like, yeah, being part of something bigger like you said before, and, like, it makes me feel, like, small as a person. In the .. the way that, like I don't have as much like responsibility, or like-like my life isn't so...Like nothing matters as much as when I'm in like at school or at my job, like like those responsibilities just feel smaller. So maybe it's not I don't feel smaller as a person, but just like my, the responsibilities I have is like, in school or work are smaller...Yeah, kind of I mean, I think when I said that I think I literally meant like I feel like my like, it feels like it feels like I'm occupying more space ... And like, think, I don't know ... think more openly.”

The idea of something bigger than oneself was also described by Hank, who said:

“...so for as much time as I spend outside, I-I would say I appreciate looking at nature and the beauty of it, the sort of untouched aspect of it, if that makes any sense. So, I would say the appreciation is mainly for the beauty, and then also that kind of that is a reminder that there's something beyond myself, right, or beyond all of the human cares and worries. And certainly, you know, there have been times where I've been, you know, my breath has been taken away by being in nature, or seeing nature in some way, and I certainly, like, in terms of things that I gravitate toward even with clothing or design. Usually I like, I like florals and things like that, so I know that might seem peripheral, but

I think that, like, fits into this concept of appreciating nature, and wanting it to be around me in different forms. And I think that there were definitely moments where the concept of, kind of, there's something bigger than me...there's beauty and things that you know just are the way they are that are all different shapes and sizes and textures and origins. And, you know, that applies to me too. We're all, you know, impactful concepts.”

In addition to feeling connected to something bigger, nature supported participants in appreciating life. In describing this, Melody said:

“And just like the fresh air. And vitamin D! All of that stuff. But also using it as an opportunity to partake, and you know, not be stuck inside, but be out and be living, and with people. And yeah, I think that's a long, rambling answer. ...I think it also just, I don't know, makes you appreciate just living - being alive and in general, I mean, there's been times where I, you know, felt that I didn't want to be, so it definitely, yeah, it just it, really, it makes me appreciative. I think just all around appreciate that. I can get up and I can walk, and I can, you know, take it in and take in living on [place2], where it's in your backyard. Quite literally.”

Nature also helped them to feel an overall higher general wellbeing, as described by Molly:

“I think it's definitely changed as I grow older and get a go experience and stuff like that. One thing I really learned or, sorry, I'll just share, like a thought that I've been thinking about lately. I've always grown up on like rural, or something like that, because my parents are farmers. So, even though maybe I wasn't living in like a super natural landscape because it was agriculture, I still really took a lot of, like, nature and open space and just like growth of fauna and flora for granted, I guess. And I lived in the city for so long - I used live in [place2], and I really had to move back to [place1], because last year I had this big realization how much I did take all of that for granted and when it was gone the effect it had on me. So that was a really big contributor to a lot of like my \*laughs\* mental wellness. So, moving back here was really important and vital, because there is a lot of like literal nature around me, like, I'm surrounded by, like, beautiful forests and rivers and stuff like that. So yeah, it's something I think is, like, extremely important. And, like, I can't state enough how important it [nature] is for humans, I guess. It's vital. It's life.”

Participants also expressed a sense of appreciation for other beings, which presented as being less focused on oneself and more so on the larger picture. For example, Molly said:

“I don't think I'm thinking of myself as much - like I'm not so self-centered when I'm outside. I guess maybe the boundaries are between, like, myself, and what's external versus when I'm inside I think there is more - maybe I will hyper-fixate, or just, like, be more aware of my presence within the world.”

This appreciation was also described by Hank, who said:

“Well, I think it supports body acceptance and appreciation in terms of, you know, recognizing like I said, that there are all these different natural features and plants that come in all different shapes and sizes, and just are, you know, okay as they are, and the concept of their being things outside of myself that are bigger than me are also provide some perspective to those kind, that kind of, like, minutia that the eating disorder can get stuck on.”

Sam likened her experience in nature to be like going to church, indicating how being in nature can connect to spirituality and how nature can give back and provide healing.

“Yeah, you know, ... my spirituality would be like connected to Mother Earth and to-to nature, and my church would be outdoors, and all that kind of stuff. And I think, you know, after my boyfriend died like there's a place that we used to always go to the beach and throw rocks in. And after he passed a blue heron showed up there, and so I always like ... There's a blue heron that doesn't live too far away from where I am right now, and I run to go see him as much as I can each week.”

Finally, Molly mentioned how being in relationship with nature and learning other ways of being with nature has opened her up to a deeper sense of awe of nature.

“I think lately I've been thinking a lot about, like, well, like I said, eco grief. So maybe that's a little bit of the flip side of that coin. But that also comes with me thinking about ... I've been taking a lot of these online courses and a lot of them kind of focus on Indigenous knowledge and ways of land keeping and stuff. So, I've been pretty fascinated by that lately, and amazed and truly just, like, inspired, I guess, by new ways of living with the land and stuff. But, in general, I think it has a lot to do with, just like awe and amazement and beauty of what nature is and all she has to offer.”

In summary, this subtheme captures the participants' feelings of interconnectivity and connection to something bigger than themselves when they spend time in nature. They shared how this feeling helped them gain a sense of belonging as well as connection to and appreciation for all beings on Earth.

**Peace, tranquility, presence, and joy.** All participants expressed a feeling of peace when in nature. This subtheme captures participants' expression of feeling grounded and at peace while in nature in a way that is not connected specifically to their body, which is captured in the

subtheme of *slowing down*. Participants reliably spoke of nature as a grounding experience. For example, Alayna said:

“And just like, when I was talking about feeling like my mind was, I don't know, I just feel like being under an open sky, and, like, being surrounded ... by nature and wilderness. It -I think it grounds you in a way that not very many other things can, or at that time not very many other things could. Yeah, kind of yeah, I kind of turned to nature, for, like, a grounding experience.”

Participants discussed how being outside calmed their mind of anxious thoughts. They also experienced an ability to be present with themselves and what they were doing. In describing this, Melody said:

“And you know what, 7 o'clock in the morning, when it's super quiet and super still, it was just really just peaceful and zen-and it let me just totally empty my head. And that was really helpful...Yeah, I'm definitely an over thinker. \*laughs\* So I think it definitely – it helped me kind of get a little bit more control of that, and that's something I definitely do less of. But yeah, it just - it really did help me just totally let go of things, or at least like let go of them enough where it wasn't gonna just take over and ruin my day.”

Rather than needing to “do” something, participants expressed an ability to just “be”. For example, Melody said “You know, find a nice spot, and-and just kind of be”. Instead of thinking about the ED voice, participants described that they are able to slow down and think of other things, such as “beauty and awe and amazement of the world” (Molly). Participants also shared a feeling of joy at witnessing the beauty of nature. Hank said:

“It's not really something verbal, I suppose, but there's just something very... I don't know how do I describe that, so like... If I look at a very beautiful flower or color that appears naturally, or maybe the ways that the trees intertwine with each other, or the flowers that are just now budding from the trees outside. There's just something breathtaking about, you know, observing, witnessing those things, I think there's, like, it's aesthetically pleasing, and in a way that, like, things that are man-made sometimes aren't. It doesn't mean that other things aren't beautiful, but it's a different type of beauty.”

When asked what “being in nature” meant to them, one participant shared, “Peace. Quiet exploration, resiliency, courage, reflection. Wholeness” (Sam). Further, Layla said, “tranquility, peace, and presence”. Molly stated:

“I was thinking about this when I was thinking about the study. I think a really big one for me is just, like, acceptance with nature. I think I could just feel like acceptance of, like, it's just who I am. I don't have to worry about, like, other things. And I know that nature is just accepting me for who I am, you know, doesn't have expectations. And I think another one is just like, yeah, like, connection. And like enrichment and fulfillment.”

Overall, spending time in nature appears to bring a sense of calm and peace to each participant that is not possible in other areas of their life. In conclusion, this theme describes participants' experience of nature as generally peaceful and grounding, which support their recovery and maintenance.

**Foundation to recovery and recovery maintenance.** Participants spoke of nature as a foundation on which their recovery could be built. Four out of six participants shared that they did not spend time in nature intentionally while working on the early stages of recovery. For these early days, they expressed how their ED outpatient teams and ED therapists were life-saving and essential to recovery. However, they also mentioned that upon reflection, time in nature increasingly became a foundation to their recovery and is still a foundation to their maintenance of ED recovery. In describing this, Layla said:

“And when I say “being outside”, I kind of think of that is like, the umbrella of, like, being in nature, where being in nature is kind of an aspect of that umbrella. Umm, so, when I feel like being outside I really want to, like, be able to, like, day trips with my partner, to, like, go hiking in a new area, a walk in a new area or like, I like running trails that are near my - my place. I used to also do rock climbing and that's in an indoor gym, but like rock climbing indoors has helped me see rocks in an outdoor setting much more differently, like a way that I grip a rocks is much more different now and I look for certain cracks that my hands can fit into and like groves in a rock for my feet in a way that I've learned to rock climb in a gym, so like, it's cool to be able to translate that outside.”

Similarly, Sam said:

“I think the only thing like I've reflected a lot on my journey and recovery, ... I think it's sort of been like-like this, like the foundation of my recovery, but it hasn't necessarily been the parts that have made the most improvements at different points along the journey, so like I really think that like emotionally focused therapy for me at one point

was really helpful in like understanding myself, and I think that at the beginning when I was hospitalized, I think, like CBT was really helpful for me, so I think that the nature part of it is been like sort of like the foundation, and I'm really grateful that I had such a strong foundation as a kid. But I think that the other things have been like, you know, gotten me to new levels of the house that I'm building towards recovery, or whatever.”

In elaborating further, Sam also noted:

“And I don't even know that...when I was really, like, really in the thick of an eating disorder that I still wouldn't have even identified it then, I think it's more as a part more of a process in the recovery part of it. I think, like, yeah, I mean, I've always felt, like, if I go to the beach I feel better or if I'm out in nature I feel better.”

Additionally, Melody said:

“My days were just better, you know, it just made it-put me in such a better, you know, more stable mindset, and I just remember feeling like, okay, like, no matter what, you know, it's-the day's gonna be okay, you know, and if not okay, then good, and-and I know during that time as well, um, I was really conscious of like reaching out to friends and saying, like, I really just, like, I need you to get me out of the house, like, I need you to - I need you to just hold me accountable and go for a walk, even if it's around the block, you know, just and anything that I could possibly not let myself hole up in my room and just cry \*laughs\* and yeah, I know had if I not gone the outpatient program and done inpatient I think they did like yoga, and they did some outdoor stuff, so doing the outpatient, I guess I kind of just did my own version of that.”

Sam described nature was the foundation of her “house” of recovery and the different modalities that supported her recovery were then built on that foundation. For example, CBT (e.g., Waller, 2007) was the “walls” and Emotion-Focused Therapy (e.g., Johnson, 2008) was the “comfy duvet on her bed”. Interestingly, all participants also noted that, although nature was present in their life before and during their ED, they were not cognizant of its foundational effects until later in their recovery. In describing this, Sam said:

“Yeah, you know, I- I don't think I really actually thought too much about it as being healing. We're like, I'm doing [program] right now. We are doing sitspots, and I was thinking about like how I have a sitspot at the cabin, but I didn't know it was a sitspot, and so I think it was just like a part of my being in my life without me. Really recognizing that it was until I became - came to a place where I was, like, in a depression, and I needed the healing. And then I found ways of like being able to call on that without having known that it was ever that it was anything that I could call on.”

Sam described a sitspot as a place where one goes into nature to a favourite place that is visited regularly to expand senses, awareness, and to get to know local plants, birds, trees, and animals.

Similarly, Melody noted:

“I think for me, [time in nature] gave me 45 minutes to an hour to talk the - in my head - crazy out of my brain. I think I just had so many thoughts in my head during that time, and it really helped me to just clear my head, ... Hmm, you know, like, less chance of me having a breakdown on my kitchen floor and calling my boss, saying I don't think I can like do life today. \*laughs\* I think just that act of forcing myself to get out and do something that was selfless in the sense of a walk just really made everything else so much easier, in a sense, and so much more attainable and approachable.”

Molly also described this realization when she said:

“Cool, like I said I really had a big revelation over the past few years about how important nature is to me. So, now I actually work at a garden. So yeah, I-I work outside. And I'm taking a lot of steps to like learn about nature, like, I'm taking, like, online courses for fun and stuff. But just, I guess, like, literally, just, like I try to go outside every day. Obviously, sometimes I can't, but trying to make like a ritual of that, I guess, incorporating it, naturalizing it, I guess, into my daily life. I do find it really clears my head. Yeah. So, I mean, if I go, for I usually go for a walk. I haven't been lately, but it's always outside. You know, stuff like that.”

And Layla described having sessions outside during her ED recovery, but not explicitly discussing being in nature with her therapist:

“Umm, yeah, but other than that, I don't really remember, like, nature coming up as like a concept or something to work on, like outside of my sessions. And I will say that, the hiking sessions, that kind of came a little later in our therapy, so it wasn't the majority of the time, but it definitely was, like, an important portion of our therapy together.”

In the maintenance of recovery, all participants clearly stated that time in nature was vital to their general wellbeing as well as maintaining recovery from their ED. Layla said “Yeah, so, I would say \*laughs\*, now it's very much a presence in my life; it's an intentional presence, whereas, you know, when I was in – hav-having an active eating disorder with treatment, it was just like something in the background or something I didn't really think about.” For Layla, nature was part of a larger system of care, but solidly foundational. She noted that “...nature is kind of,

part of the overarching system that really helps that – keep that, either through boosting mood or, umm, of feeling- feeling connected to our larger world is part of that and healing that – helped heal that relationship with-with movement.”

Unintentional inclusion of nature through active ED treatment at the beginning of recovery was common for participants, as described above. Although, this was not a specific interest of this thesis, it was an inadvertent finding in relation to the theme of nature being a foundational part of recovery and maintenance. All participants noted that, once they moved from treatment and recovery into a recovery maintenance phase, they intentionally included nature in their day-to-day lives as a means to support the maintenance of their recovery. Layla mentioned that she and her therapist would take hikes during therapy but the focus was not on nature and it acted more like exposure therapy than attuning to nature as a healer. Melody and Molly were the only two who shared that they intentionally included nature in their active treatment process. This is in contrast to what all other participants shared: that on the journey towards stable recovery, they had realized the importance of spending time in nature and now intentionally include spending time outside in their daily lives. As Layla stated: “... Now, like, part of my self-care ... includes being outside in some way”. The intentional inclusion of nature for the maintenance of recovery was unanimously agreed on by participants, as described by Layla above as well as in the following quotes:

“I still love to run, and I make sure that I get outside. And I do run in nature by myself a few times a week, and I like to remind myself of my importance in that system, and I engage others in the therapy of nature, and I'm an advocate for that, and... Yeah, I sit in it more now, instead of always moving. So sometimes I'll go and I'll sit by the ocean, or I do grounding, like my feet in the water, and I like practice mindfulness there. Yeah...it's more like an awareness of its medicine rather than just like taking of the medicine, but now it's like I'm aware of it as well.” – Sam

“I've definitely tried to get outside every day. I had a habit in the fall and the spring of like trying to see the sunrise and sunset every day, and that was really awesome. I, yeah, I

try to get outside anytime...I'm feeling stressed or just like I feel like I need to-to feel kind of more like a human being again, as opposed to a worker bee. So, yeah, I think in general, right now, I just I really try to make it a habit of getting outside every day and being under-under the open sky.” – Alayna

“For example, I'm coordinating volunteer events for my workplace, and we're going to the forest preserves tomorrow to volunteer for Earth Day and pull out some invasive species and I don't know that I would have done that before \*laughs\* so yeah, I guess it's, kind of, like a willingness to get my hands dirty and to forget myself a bit more – that didn't exist before. I also spent some time paddle boarding on [place3] not last summer, the summer before, and for someone who's not very outdoorsy, I would absolutely go paddle boarding again. It was the wonderful experience, so, yeah. I think those are that kind of provides some examples of how my relationship with nature is different and sort of affirms why recovery is worth it.” – Hank

“So, yeah, and I-I think I wouldn't have been able to kind of get through all of that if I hadn't gotten stronger at actually, you know, being forced outside and making myself do that and getting into that habit of spending time outside. And I definitely can catch myself now I know when I'm not doing it enough and know when I'm not getting enough outside fresh air...it definitely made me a lot more conscious of that, and I find that I can catch myself so that I don't get into that kind of like mental hole of like, well, it's just easier to not, so.” – Melody

“And I do notice a big correlation between when I'm not doing well is maybe when I'm not – when I didn't – wasn't prioritizing nature or didn't see the importance of it. And honestly, like ... recovery and becoming sick was a huge wake up call, and I don't know if I would even see nature in the same way I do now, so I'm grateful for recovery, and having a relapse in that way because it was really instrumental to me discovering my relationship with nature.” – Molly

In summary, this subtheme of nature being a foundation to recovery and maintenance summarizes how participants viewed nature specifically in relation to their recovery and maintenance, and how, as they moved to recovery, they intentionally included nature as part of the umbrella of their care.

### **Women and Nature**

As discussed in Chapter Two, nature has been historically inaccessible for women (Mitten, 2012; Mitten 2018). Given this history, a secondary objective of this research was to inquire about whether or not the participants had any reflections on how their gender identity

affected their ability to engage with nature. When asked if they have ever felt that getting into nature or natural spaces were inaccessible to them as women, all women expressed that they felt it was accessible, for the most part. However, they did mention that there were always safety concerns with regards to their gender. Five out of six participants noted that they do not go to known unsafe locations for women or go into nature alone at night. In describing this, Layla said:

“...I think, like, nature, I think, like, before that I was saying that, like, I never really considered being outside, or certain nature activities inaccessible based on my identity just in general, um, I am able-bodied ... when we are thinking about accessibility physically at least, so I didn't feel it that way. And I would say, like, it's continued to be very accessible for me, like I – the only, I think, fear that I've had and that's regardless of an eating disorder or not, is like a fear of some, of like, going out at night, like I would not exercise outside alone and that has always, of course, frustrated me that I don't feel that I can – or have access, or safety for running at like 2 in the morning if I wanted to and I had a night schedule like that, right.”

Similarly, Alayna said:

“Yeah, I lived in [place], [State] for about a year in 2020 and 2021, and there are times where I would want to go out for like a bike ride along the river nearby...but I felt uncomfortable, because, like, once you get out to the more remote areas of the bike path where I wanted to go, and like, really immerse myself in nature, there were...I would just be afraid of running into men, yeah....Yeah, it's very frustrating. Yeah, so that sort of inaccessibility has been a lot around safety.”

In discussing her experience with safety concerns, Hank said:

“I guess, in the sense of feeling watched. Yes, because especially if I'm thinking of being out in warm weather and wearing clothes that show more skin, right? I do feel like I-I like, I feel more self-conscious, and I feel like there's always a chance that someone's looking at me or like a evaluating my appearance. Whether that's true or not, right, I think that there is some truth to that just based on the objectification of women and cat-calling and things like that. But I think I still feel a little- I can feel a little self-conscious, even if I don't ,like, have a reason to think that someone's watching me, or I'm in an area where, like, it's very unlikely that anyone would be saying anything or watching me. I mean, obviously, those concerns have decreased as I'm in recovery, right, I'm feeling more accepting and comfortable in my body, and not so afraid of wearing things like shorts or tank tops and things like that. But yeah, being a woman, I do feel like in general, there's more like a low-level sense of self-consciousness and like awareness of my body in space. And who's looking at it and who's evaluating it.”

Hank elaborated further when she said:

“So, I do startle very easily, and I don't know that this is really anything about other people, or just my imagination. But like, when a lot of times I'll ... take the dog out late, and I do get a little scared being out side by myself at night in the dark, where like we don't really know our neighbors, and so while I recognize there's like irrationality there, and just like my imagination running its course. Yeah, I think that there are safety issues, and also, like...it hasn't really been an issue before – but, like, leaving work when it's dark outside, and walking to my car by myself. Sometimes I'll, like, get a little spooked, or think through like, are there any safety concerns that I should be considering?”

Molly expressed that nature had been inaccessible for her due to socioeconomic status and that she knew others who have been historically marginalized that have even more difficulty reaching nature and reaching natural areas safely. She noted:

“... I mean, I also had, like, lots of, like ... I drive. So that's a huge thing. But a lot of my female friends, or like, queer friends, like, they don't drive so it's, like, and if they're leaving the city because how can they afford to... like if they're gonna go move to small town? What are they gonna do for work? They have, like, basically no access to nature except, I mean, we are lucky that we have the river valley by us. But, like, when I was living in [place2] ... there's, like, basically, like, no nature except for the mountain ... but the mountain it's, like, yeah, you know, it's like, it's nature. But it's, like, a huge tourist spot, it takes a long time to get there, so that kind of stuff. But yeah, it's obviously all these social factors are huge part of it, too, like racism, gender and economic status. And it - it's heartbreaking. Even in [place1]. Now I know ... our poor neighborhoods, like, yeah, they don't have as many trees and stuff.”

Molly described the consideration of safety concerns for women more broadly when she said:

“The safety point is, the safety piece is such a good element, like, for example, if I do, like, this is such a big thing in [place1] that I'll use an example like [place4] probably is not a safe place for women or anyone I mean, anyone I guess but ... one of the highest I think like I'm - this is totally anecdotal but like, from what I remember, like one of the highest places in [place1] to get, like, sexually assaulted was right by [place4]. By the [university] campus and stuff like that. I know so many people who have been assaulted there. Physically or sexually, or anything like that. Yeah, especially at night, you know, stuff like that ... This also makes me think, too, of an example, too. We have a lake outside of [place1], maybe, like an hour and a half out, or an hour out, and I live kind of in the middle of it. It's a really, it's called [place4], and it's really important, like, to a lot of different communities, especially for one of the Indigenous bands around here. I can't remember what it's called, but it's, like, there's a ceremony that will happen - it's kind of like a pilgrimage that happens. I think once a year where a lot of different communities but especially this Indigenous community will do a pilgrimage to this event. Like, for a lot of those people who want to partake in that event don't have cars or access to get out there, so there'll be a lot of hitchhikers and a lot of stuff goes wrong during that time.”

In general, as cisgender women, participants had spaces where they felt nature was accessible.

For example, Alayna said:

“Yeah, generally. Is with my experiences like canoeing in the [place]. I felt very, I felt like it's a very accessible place for me, and I think part of that is because I've been like surrounded by other women...who are engaged in like the same activities. And we have similar values.”

If participants did not feel that nature was safe in a certain context, they would find a place where it was accessible and where they felt they were safe. For example, Sam said:

“No, I've never felt that being a woman is restricted or that I'm being restricted from nature as a female...I mean every morning I just step outside in my front yard, and I like take my deep breath and feel like, Oh, like, Oh, yeah. Just puts my day into perspective. So, I don't, I mean, ... that's considered nature to me, it is because I'm listening for the birds, and feeling the fresh air and look and looking for it.....So yeah, I don't know. I mean, I guess in some ways it's more inaccessible like next week we're going camping into [place5] for 6 nights, and I wouldn't probably be going unless I had a partner, because we have a trailer and I don't know how to drive the trailer....So like I get, I guess it's not as accessible in those ways, but I think I would just find [nature].”

Similarly, Melody said:

“No, I wouldn't say it's ever really felt inaccessible. I think definitely where-where we live probably makes it easier you know, we're not in some big metropolis where you have to drive like 2 h to get out of the city, kind of thing. So, I think definitely, I'm very like grateful to have you know, the ability to, you know, drive somewhere if I want to, or, you know, walk somewhere, if I want to, you know, [country] is a very inclusive country. So yeah, I've you know it's very lucky I've had the opportunity to know people over the last few years who do come from countries where especially women don't have opportunities like that. And it makes me a lot more aware and a lot more grateful to just know that I do have that ability, and maybe I should do more or be more active in those things, because other people don't have that. So yeah, definitely makes me more grateful.”

Within this discussion, it is essential to mention the social location of the participants. As mostly White women, mostly heterosexual, and all cis-gender, able-bodied women, the participants are likely to enjoy the ease of accessibility to places that have been historically and currently

inaccessible for women with multiple marginalized identities. Finally, Molly noted socio-economic status as a barrier to getting to nature in addition to general safety:

“Oh, my God! For sure, like when I was younger and poor, and living in the city, like, no way was [nature] easy to get to. You know, I could go to public park or something might be like an acre or 2, but it's like it's something I - sorry I'm grateful for that, too - but it's nothing easy. And yeah, obviously being female like, that's a huge socio-economic issue right there. Like I wasn't making so much money, I mean, I still don't obviously make as much money as male counterparts in my life...working longer hours working, you know, more like female-gendered jobs. So, a lot of the time. Yeah, like, the hours are weird or I would get tired after work. So, didn't get to experience a lot of nature.”

In summary, all six participants discussed that nature was mostly accessible for them as able-bodied, cisgender women. However, all expressed restrictions of areas they can visit due to safety concerns. Importantly, since most of these women were White and most of these women identified with dominant identities (e.g., heterosexual, cisgender), the information around accessibility does not provide diverse enough lived experiences to generalize these experiences to women with other identities not represented here.

### **Conclusion**

Two overarching themes were identified throughout the analysis of the six interviews. The first, *Embodiment*, captured participants' experiences of reconnecting with their bodies, movement, and food through a feeling of freedom rather than punishment. They shared that nature helped them slow down, calm their mind, and tune into what their bodies needed. The second theme, *Meaning of Nature*, outlined participants' experiences of being connected to something bigger than themselves and being reminded that they are a part of a larger system in which all beings (human and more-than-human) have a role and belong. This theme also encompassed participants' description of how nature helped them feel a sense of peace, presence, and tranquility. Participants also described that spending time in nature was a foundation to their recovery and maintenance of recovery to help remind them that recovery was worth it and that

they belong. Finally, there was an acknowledgement by participants towards the difficulties of feeling safe in nature as women. Although most of the participants felt that they had access to nature, they shared that they would not go to certain places or go out at night alone because they were women.

## Chapter 5

### Discussion

The objective of the current study was to investigate if and how spending time in nature impacted ED recovery and maintenance. As a secondary objective, the current study also sought to examine whether or not women with a history of EDs felt that nature was accessible to them as women. The results presented in Chapter 4 will be considered alongside existing literature and previous studies examining this topic. The results were organized into two overarching themes. The first main theme was *Embodiment*, which encapsulated the subthemes *freedom and acceptance versus punishment and restriction*; and *slowing down the ED voice, and being uncontrolled versus controlled*. The second main theme was *Meaning of Nature*, which included the subthemes *spirituality, something bigger, and a sense of belonging; peace, tranquility, presence, and joy*; and *foundation to recovery and maintenance*. This chapter will place the themes and subthemes in the existing literature, considering how these results may confirm, add to, or contrast with the results of previously published studies.

### Embodiment

Research on embodiment relating to EDs began as a reaction to research on self-objectification (Cook-Cottone, 2020), with Piran's Developmental Theory of Embodiment describing the positive embodiment characteristics (Piran, 2017). Participants in this study expressed all of the five dimensions of positive embodiment outlined in Piran's research (2017; see pages 14-15 of Chapter 2): while in nature, all participants discussed, (1) feeling body connection and comfort; (2) feeling that their body was capable and functional; (3) feeling able to express their needs; (4) listening to themselves and their bodies to provide self-care; and, (5) resisting self-objectification and other-objectification by experiencing their body in an embodied

way and resisting societal standards. Overall, nature appeared to have supported all six participants to experience positive embodiment.

As further connection to embodiment theory, participants' experiences of how nature supports positive embodiment aligns directly with the three main categories of protective versus disruptive experiences of embodiment outlined by Piran and Teall (2012). The first category is the physical domain, which includes the inner attunement of one's states and bodily needs or interoception (Cameron, 2002; Craig, 2002). During the height of EDs, it is common for people to experience alexithymia, the difficulty in awareness and identification of emotional state (Taylor et al., 1991; Cook-Cottone, 2020), as well as to be disconnected from their body's signals. In this study, participants shared that spending time in nature increased their ability to attune to themselves – both mentally and physically. They shared they would stop when they were tired or eat when they were hungry, indicating an attunement to their bodies' cues.

The second category of Piran and Teall (2012)'s protective versus disruptive experiences of embodiment is the mental domain of the relationship with one's body. In this domain, disruptions can occur through exposure to stereotypes according to gender or body shape. Participants expressed the experience of needing to fit into a certain job or be a certain body type while in their ED; however, they shared that spending time in nature gave them freedom from these stereotypes and restrictions and supported them towards acceptance of themselves and their bodies. The third category is the social power and relationships domain, which sits at the crossroads of body and culture. All participants discussed how society had informed and played a role in their ED, such as the male gaze (Glapka, 2018), gendered jobs (e.g., cleaning or nursing), high pressure environments (e.g., school), social media, and diet culture. In nature,

participants shared a freedom from this experience and felt they had a role and a place regardless of gender or body type.

Researchers have found that increasing feelings of positive embodiment is a protective factor against negative body image (Levine & Smolak, 2016) and supports recovery from EDs (Piran & Teall, 2012; Cook-Cottone & Douglass, 2017). This is done through embodying practices that help rebuild one's relationship with their body through actively *experiencing* the body (Perey & Cook-Cottone, 2020), which participants shared they experienced while spending time in nature. Participants shared that spending time in nature increased their positive embodiment and body image. They indicated that they felt strong, functional, and capable as well as were able to listen to what their bodies needed when in nature. This indicates connection between body and mind that Cook-Cottone (2020) argues is vital to ED recovery and maintenance. Both in prior research as well as the current research, spending time in nature was described as a supportive part of ED recovery and maintenance.

### **Freedom versus Punishment**

Participants shared an experience of freedom in their bodies, about their bodies, as well as with food and exercise while spending time in nature. They felt more connected to their bodies, which was a suggested outcome by Allen-Collinson and Leledaki (2015) when exercising outdoors. Monteleone et al. (2017) also suggested that physical activity and nature-based therapy could support people suffering from EDs to feel more at home in their bodies and shift the view of their bodies from an “object” to a beautiful vessel that helps them to experience life. These ideas were shared almost to the word by participants, as first introduced in Chapter 4: Sam said “the shackles lift, and you feel like you don't have those same restraints, and I feel stronger, and I feel like my body feels better on me. It kind of feels, like, my body is on-on my,

like, soul and my spirit...” And Hank said “So, being a vessel for perceiving something that's beautiful or interesting, or being able to, like, move through nature, or do something in nature, right, is less about ... what I look like, and more about what I am doing and what my body can do for me, or allow me to do and allow me to perceive”. The finding of experiencing a sense of freedom replicates the findings in Jepsen Trangsrud et al., (2021) whose participants shared that, when alone in nature, their experience supported feelings of freedom and helped move the ED to the back of their mind.

In addition to this, participants expressed a feeling of wonder and gratitude to be able to do what they do outside – whether it is physical exertion like rock climbing, witnessing something beautiful, or being still. These experiences in, and about, the body connect with research that indicates a sense of accomplishment and wonder for what the body is capable of helps to increase positive body image (Cole et al., 2013; Rosenberg et al., 2014). The need for body acceptance, or at minimum body neutrality, is also important to improving body image (Tylka & Wood-Barcalow, 2015; Clark, 2023), which supports ED prevention and recovery (Cook-Cottone, 2020). The participants expressed that nature supported them in feeling body acceptance or neutrality, shifted their mind away from their body, and acted as a reset. Their gratitude to be able to do the things they wanted and to be a vessel to experience the beauty of nature seemed to gain a foothold over the ED voice when they were outside compared to when they were inside for long periods of time. This sentiment was also expressed by participants in Jepsen Trangsrud et al. (2020b), which is discussed in the section on *slowing down* below.

**Self-objectification.** Participants in this study expressed that, while in their ED, they objectified their body. This is related to objectification theory as discussed by McKinley and Hyde (1996), Noll and Fredrickson (1998), and Fredrickson and Roberts (1997). Objectification

theory describes that women and girls are socialized to sexualize and objectify themselves (Noll & Fredrickson, 1998). Male gaze also feeds into objectification, since it is the eroticized surveillance of women's bodies by men (Glapka, 2018). Objectification and the male gaze, along with social comparison, as discussed in Chapter 2, contributes to disordered eating and EDs, and challenging these cognitive processes support ED recovery (Noll & Fredrickson, 1998; Fitzsimmons-Craft et al., 2012; 2014; Saunders & Eaton, 2018; Saunders et al., 2020). Participants did mention these concepts as factors in the instigation and continuation of their ED, as shown in Chapter 4.

The intense comparison, male gaze, and objectification of themselves, and pressures from society led to an unhealthy relationship to food and exercise, and an unhealthy relationship with their body through disconnecting from their body's needs. The participants shared that nature helped them connect with their body and heal their relationship to the body's natural need for food as well as heal their relationship with movement. According to participants, nature supported this reconnection through a process of re-embodiment where they could listen to their physical, mental, emotional, and spiritual needs and actually act to fulfill them.

**Dislike of gyms.** All participants in the current study expressed a dislike – or even a hatred – of the gym. This finding aligns with the academic literature examining ED prevalence among gymgoers. Restrepo and Castañeda Quirama (2020a, 2020b) assessed women who regularly went to the gym in Medellín, Colombia using the Eating Attitudes Test (EAT-26). The EAT-26 is a validated Likert-scale survey used to enquire about symptoms and concerns related to EDs. In this study, Restrepo and Castañeda Quirama (2020a, 2020b) found that 143 of 337 participants were at risk of an ED. They also found a relationship between social media use and going to the gym, which may increase the risk of initiation or maintenance of an ED. In male

gym goers in Australia, Stapleton et al. (2016) reported that body dissatisfaction and eating pathology was significantly higher in gym users compared to non-gym users.

Exercising in the gym is also shown to have fewer psychological benefits compared to exercising in nature. In a comparative study of exercising indoors and outdoors to support Chinese university students with larger bodies, Wang et al. (2021) examined the physiological and psychological responses of students in four conditions: slow walk in the park, fast walk in the park, slow walk in the gym, and fast walk in the gym. Psychologically, the students reported that being active in natural environments relieved more stress and restored attentional levels more so than walking in the gym (see also Barton, 2009; Kaplan, 1995; Kaplan, 2001; Korpela et al., 2018). The students responded that being outside was more interesting, relaxing, calming, open, beautiful, and safe when compared to walking in the gym. The authors concluded that there needs to be more focus on supporting people with larger bodies to exercise outside. They called for more urban parks to make this more accessible (Wang et al., 2021).

Overall, with regard to feelings of freedom and punishment, this study gives support to the idea that being in nature offers feelings of freedom when it comes to their body, moving their body, and providing their body with nourishment.

### **Slowing Down the ED Voice and Being Uncontrolled versus Controlled**

Nature has been shown to support stress reduction and the alleviation of symptoms of stress-related disorders (Barton, 2009; Stigsdotter & Grahn, 2011; Sahlin et al., 2014). The subtheme of *slowing down* appears to relate to this previous research, as slowing down, tuning in, and being more in the present moment (i.e., mindfulness) can support stress reduction (e.g., Cascales-Pérez et al., 2021; Uysal & Çalışkan, 2021). Participants also shared that nature calms their anxious mind, decreases rumination and provides space for other thoughts. This is

supported by studies that found people seek nature as a means to self-manage symptoms of mental health disorders (Tester-Jones et al., 2020), to help cope with severe mental health effects of COVID-19 lockdowns (Pouso et al., 2021), to support a reduction in rumination (McEwan et al., 2021), and to support a slowing down of cognition and an increase of care for self and others (Carlson et al., 2020)

Sense of engagement has been described as a way for people to connect with the present moment and with their bodies (Pálsdóttir et al., 2021) and nature engages all of our senses (Abbott et al., 2016; Ikei & Miyazaki, 2020; Liu et al., 2019; Pálsdóttir et al., 2021). The current study's participants indicated that experiencing natural elements made them feel happy, present, and embodied, which connects to previous research that found exercising in nature promoted a sense of wonderment and an increased awareness of their body's inner sensations (Allen-Collinson & Leledaki, 2015). Within the theme of *slowing down*, there was also an aspect of uncontrollability that arose. Interestingly, participants in the Jepsen Trangsrud et al. (2021) study described that *friluftsliv* (defined and described in Chapter 2) facilitated “a sense of empowerment in one's own life, where the less controllable aspects of nature were also proposed as supportive in learning to live in an uncontrollable world” (p. 6). The idea of nature as uncontrollable and that this uncontrollability could be supportive to people in ED recovery was a strong pattern in the current study, but it was focused more on recognizing that, if nature was uncontrollable and still beautiful and necessary, their bodies and themselves could also be uncontrolled, beautiful, and essential. In this way, *nature can be regarded as giving permission to slow down because it models imperfection as being okay, necessary and beautiful*. Natural places may encourage a belief that all bodies are natural, which may help bring people to

sensations of being embodied and to realizing that although nature is uncontrolled it is still beautiful and essential.

### **Nature and ED Recovery**

Jepsen Trangsrud et al.'s study (2020b) found four themes: (1) nature provides one with peacefulness and calmness, (2) nature invites one to sense the world with one's feet, (3) nature embraces one as one is, and (4) nature provides room for self-care. All of these themes were also found in the current study. The first overlap in findings is that nature provides one with peacefulness and calmness. Participants shared in this study that EDs build up pressure inside and that nature helps to slow them down, which is mirrored in the themes of *slowing down the ED voice and being uncontrolled vs. controlled* and *peace, presence, tranquility, and joy*. Jepsen Trangsrud et al. (2020b) combined the ideas in these two themes into one. They discussed how participants found calm, a safe connection to mindfulness, and turning outward from oneself to nature. In Jepsen Trangsrud et al. (2020b)'s first theme of peacefulness and calmness, they mention how this peacefulness related to a sense of belonging, which, for the current participants' appeared to be more in relation to feeling connected to something bigger.

The second theme was described as inviting one to sense the world with one's feet as an experience of re-embodiment. Although the current study's participants did not describe embodiment in the same way, they all discussed an experience of embodiment, which supported them in feeling connected to the present and their body. They also discussed that their ED voice quieted because they were able to re-embodiment themselves. In the current study's theme of *slowing down*, participants discussed how nature helped them be more present and aware of their surroundings. The third theme in Jepsen Trangsrud et al.'s (2020b) study was that nature embraces one as one is. Participants in their study expressed that nature is a non-judgemental

space, where no one is watching them and where they could bring all of their worries. In the current study, all participants expressed that they experienced nature as a non-judgemental space where everyone has a role and a place and can be accepted just as they are.

The fourth theme in Jepsen Trangsrud et al.'s (2020b) study was that nature provided room for self-care and attending to one's needs. Participants in their study shared that they shifted from focusing on bodily appearance to bodily function. This was also noted by all the participants in the current study who shared that, in nature, they could listen to what their body needed (e.g., rest, be active, eat, drink water). They also shared that their attention turned to functionality and capability rather than appearance. Similar to the participants in Jepsen Trangsrud et al.'s study (2020b), the participants in the current study noted that when they went out into nature their ED voice dissipated and was absent from their attention. It seems that nature calmed their mind, created space in their thoughts and then filled some of that space with sunlight, wind, trees, and what was around them.

In summary, the findings from the current study align with recent literature suggesting that nature can help slow down one's mind and provide space for them to listen to their bodies. Across the current and existing studies, participants viewed nature as beautiful, essential, and uncontrollable, and in turn, began to approach their bodies in the same way.

### **Meaning of Nature**

#### **Spirituality or Something Bigger**

In this theme, participants shared that nature helped them to feel connected to something bigger than themselves and that this supported them in putting their life into perspective and making their problems seem smaller. This feeling of something bigger helped the participants feel less alone and more connected with other humans, more-than-human beings, and nature as a

whole. This aligns with findings from Joschko et al., (2023) whose participants expressed that nature-based therapy helped them feel “meaning in life” and that they were “doing something meaningful and good, which helps [them] and nature” (p. 15). In general, there seemed to be a spiritual aspect to this experience. One of the participants even referred to nature as her “church”. In Matusek and Knudson (2009), participants stated that it was important for them to feel connected to something larger than themselves for ED recovery, whether this was via communities, advocacy, and/or spirituality (e.g., church, new age spirituality) because it helped them have a purpose and a reason to maintain recovery.

In the current study, the participants were not asked directly about spirituality or if nature helped them to feel connected in that way, but rather, all participants brought up this concept spontaneously, indicating that this is possibly a vital experience. Jepsen Trangsrud et al. (2020b) did not find a strong theme of being connected to “something bigger”, but they did discuss this idea in their interpretation of results: “The deep emotions that are related to the human-nature interaction could be understood as a sense of belonging, including a feeling of connectedness to a broader reality, and a sense of purpose and faith in a larger reality” (p. 11). Markedly, Jepsen Trangsrud et al.’s (2020b) musing about belonging, purpose, and faith in a larger reality was echoed in the responses from the current study’s participants. Findings reported by D’Abundo and Chally (2004) also indicated the importance of spirituality and relationship in the discussion the circle of acceptance in their article focused on ED recovery processes.

In this study, participants also discussed how they did not feel alone in nature, even when they were physically alone. D’Abundo and Chally (2004) and Lord et al. (2018) found a common theme of isolative behaviours in people suffering from EDs. In the current study, this aloneness appeared to be countered by spending time in nature, which helped participants feel a

sense of belonging and that they were not alone. This finding is congruent with Jepsen Trangsrud et al. (2021), whose participants also discussed finding connectedness to themselves and to others. The findings from the current study also align with literature that indicates nature and natural spaces can decrease loneliness because they facilitate social relationships and community (Kruiz et al., 2019; Rugel et al., 2019).

In the current study, part of not feeling alone was a sense of interconnectivity and being in a reciprocal relationship to other beings. Participants shared that, while in recovery, they learned about this required reciprocity between them and nature. This relationality was also brought up by participants in Jepsen Trangsrud et al. (2020b; 2021) and Corazon et al.'s (2018) studies. Participants in Corazon et al.'s (2018) study discussed how learning therapeutic techniques while in nature changed how they interacted with nature in their everyday lives – they became more aware of how nature supported them. This directly connects to how the current study's participants expressed their realization of how nature supported them as well as how they could give back to nature (i.e., Hank running invasive species removals), and their eventual intentional inclusion of nature as a foundational part of their continued healing.

A step further than feeling not alone and feeling interconnected is the experience of a sense of belonging. The participants highlighted this connection to something bigger provided them with a sense of belonging, which was also found in the studies by Jepsen Trangsrud et al. (2020b; 2021) and others (Keyes, 2005; Hammell, 2014). A sense of belonging to people and place has been shown to be vital to human wellbeing (Hammell, 2014), while feeling loneliness is connected to numerous mental health difficulties (e.g., Kawanishi, 2009; Sagan & Miller, 2018; Goodfellow et al., 2022), including EDs (Levine, 2012; Cook-Cottone, 2020). A sense of belonging has been shown to: (1) buffer depression and anxiety during and outside of the

COVID-19 pandemic (Gopalan et al., 2021); (2) mediate poor mental health associated with discrimination faced by Somali immigrants in America (Lincoln et al., 2021); (3) to be related to one's identity by being involved in particular activities (Stebbleton et al., 2022); (4) to be associated with lower self-perceived mental health (Kitchen et al., 2012); and (5) to encourage improved mental health in older adults in Australia (Bailey & McLaren, 2005). If nature can help ease this loneliness or lack of belonging, it could be a way to support people with EDs, and possibly other mental health challenges, throughout their process of healing.

### **Peace, Tranquility, Presence, and Joy**

Spending time in nature seemed to provide an experience of overall – physical, mental, emotional, and spiritual – peace, tranquility, presence, and joy. This experience in nature is not new or revolutionary, according to previous literature. In Corazon et al. (2018), participants expressed that being in the therapy garden was “calming”, “supportive”, “protective”, “motivating”, “a feeling of refuge”, and “provid[ed] mental space” (p. 6). This aligns also with how participants in Jepsen Trangsrud et al.'s (2020b; 2021) research felt when being in nature, it is a “calm, quiet, stable place” (2020b, p. 7) and is a place “to seek shelter when things became too stressful” (2021, p. 7). Other non-ED nature-focused studies provide these similar words and phrases (e.g., Pálsdóttir et al., 2021, Sonntag et al., 2015). In conjunction with previous literature, the current study suggests that spending time in nature can be beneficial for calming anxious minds and putting the ED into the background (Jepsen Trangsrud et al., 2021).

### **Foundation to Recovery and Maintenance**

Participants shared that nature was a foundation to their ED recovery and maintenance, and that they began to intentionally include spending time in nature on regular, if not a daily, basis to support them. Recovery, as described by the participants, was also holistic and included

physical, mental, social, and spiritual aspects. This definition aligned with that voiced by participants in Matusek and Knudson's (2009) work, in which eight women who self-identified as recovered from an ED were interviewed. These women expressed that recovering from an ED required all parts of a human being: mental, emotion, social, and spiritual. They also shared that core components of their recovery included being involved in social activism and deepening into spiritual commitment (Matusek & Knudson, 2009). The current study's participants used terms like "foundation" or "umbrella" to explain how nature was situated in their recovery. Nature was not the sole treatment for their ED, but rather was the foundation on which their recovery "house" was built. As discussed by participants, regular time in nature was vital, which is supported by Kelly et al. (2010) who found that mental health recovery was highly supported by taking part in everyday activities that were beneficial to mental health and wellbeing.

To my knowledge, nature has not been described as a "foundation" for recovery in any literature found thus far. The closest comparison is in Jepsen Trangsrud et al.'s (2021) study where participants shared that it was an arena where they could practice behaviours that they would later use for recovery (e.g., self-care, healthy coping mechanisms, taking control of situations). A distant comparison is in Corazon et al., (2018), in which a participant described a tree as an anchor that helped steer her. Given how few studies discuss nature as a base or foundation on which to build recovery, this finding is both novel and exciting. If nature can be a foundation of support for people maneuvering through the tumultuous and chaotic river of an ED, then this provides each person with a mostly accessible and low cost or free means of supporting their recovery journey both in early recovery and in the maintenance of recovery.

### **Implications for Counselling**

Spending time in nature is, for the most part, free and easily accessible with practically no upfront cost required; therefore, people can try to include time in nature in a way that is manageable for them. It can be easily brought into counselling, and there is a growing body of academic and therapeutic literature that demonstrates different interventions and ways to incorporate nature as a co-therapist both inside a counselling room and outside in nature (Harper et al., 2019; Courtney et al., 2022). Furthermore, ED treatment facilities are often situated on acreage or have green spaces near them, so it would be highly accessible to take clients outside for walk and talks, group therapy, or to simply spend time being mindful and at rest. Importantly, as illuminated under the theme of nature being a foundation to recovery and maintenance, spending time in nature was not a cure for participants' EDs. Instead, it is a part of the integrated and interconnected process of many supports, including specialized ED therapy, supportive community, family and pets, in-patient or out-patient care, and many others. This idea is also supported in an article by Jepsen Trangsrud et al. (2021), who surmised that spending time in nature "was not presented as a solution for everything difficult, but highlighted as supportive in recognizing and finding a balance around one's needs, inclusive of experiences related to living and dealing with an ED" (p. 10).

The findings in this study, as well as those studies exploring the benefits of nature on countless aspects of human wellbeing (e.g., Maas et al., 2006; Stigsdotter & Grahn, 2011; Cole et al., 2013; Allen-Collinson & Owton, 2014; Shanahan et al., 2016; Crouse et al., 2017; Lumber et al., 2017; Helbich et al., 2018; Stevenson et al., 2018; Bratman et al., 2019; Wells et al., 2019; Tester-Jones et al., 2020; Cavaleiro Rufo et al., 2021; Kotera et al., 2021), indicate that interacting with nature and increased access to nature could be extremely beneficial for many

people. This study adds additional data to the possibility of non-formal, everyday interactions with nature (both more remote and urban-based) that could support ED recovery and maintenance. Increasing access to nature as well as protecting and growing natural spaces could benefit human wellbeing and mental health as well as the wellbeing of our natural world.

This study adds to the growing body of literature describing the potential health and wellbeing benefits of being in relationship and interacting with nature. However, it is important to note that everyone has a different way of interacting with nature. For some, nature is a week-long backpacking trip in a remote place, whereas for others nature is their garden or the plant in their house or simply feeling the sun (Jepsen Trangsrud et al., 2021). Each person interacts with nature differently and on a spectrum, as such, any information from this study needs to be taken along with centring the voices of the people who may be supported by these implications.

As described in Chapter 1, EDs are challenging to treat and to recover from (Pettersen & Rosenvinge, 2002; D'Abundo & Chally, 2004; Yager et al., 2006; NICE, 2020; Cook-Cottone, 2020) and have a high relapse rate (van Elburg, 2007; Berends et al., 2016), so having affordable, self-managed, and accessible environments that support people who are moving through the difficult process of recovery is extremely beneficial. It is possible that spending time in nature may speed up or increase the likelihood of recovery, which would have vast implications, but this needs to be researched.

Spending time in nature is something that appears to be easily integrated into both therapy and clients' everyday lives. Within therapy, there is not much literature speaking specifically to combining therapeutic modalities with nature-based work, rather it appears that it is simply integrated into treatment (e.g., Sidenius et al., 2017; Pálsdóttir et al., 2021; Joschko et al., 2023). According to nature-based practitioners, nature is easily incorporated into whatever

approach the therapist is using, and can be included in indoor settings (e.g., bringing in rocks, flowers, scents or simply using nature metaphors) or outdoor settings, including walk-and-talks, and even settings such as rock climbing and kayaking (Harper et al., 2019; Courtney, 2022).

Although literature on nature-based treatments are relatively new, these studies demonstrate that nature-based therapy or nature-inspired therapy is possible for any therapist who is interested.

### **Strengths, Limitations, and Future Research**

The current study has several strengths, limitations, and areas for future research. For strengths, this study was the first of its kind in North America, answering the call from Jepsen Trangsrud et al. (2020b) to investigate how time in nature support ED recovery in non-Nordic countries. This study used TA to approach analysis of the interviews from a bottom-up approach, allowing the data to speak for itself. The interviews themselves were in-depth, with open-ended and broad questions that investigate how participants view nature and wellbeing; this study did not already assume nature was helpful in ED recovery, but rather allowed the participants to share openly. This study also does not attempt to look at experimental effects of nature in active ED treatment, but rather the experiences of participants throughout their recovery and maintenance journeys in relation to nature, which provides a deeper understanding of the impacts of nature and can aid in the development of further studies. As a final strength, this study focused on any form of nature, not just wild or remote nature in Norway (Jepsen Trangsrud et al., 2020b; 2021) or a therapy garden as in Corazon et al., (2018). This expanded what participants could share as impactful for them, because not all participants felt connected to, or comfortable in, wilderness settings.

There were also a number of limitations that need to be stated. First, as a pilot study, the sample size for the current study was small and had a lack of diverse life experiences.

Participants were primarily White and heterosexual, and all identified as cisgender and able-bodied. This means that there is limited input from people who have been historically marginalized and oppressed who may face more barriers to accessing nature. Additionally, the three other main studies in this field (Jepsen Trangsrud et al., 2020b; 2021; Corazon et al., 2018) also have small sample sizes. In future research, it would be beneficial to have larger sample sizes and to focus on hearing the voices of historically marginalized populations, such as people who identify as LGBTQ+ and/or BIPOC, as these populations are understudied in ED research (Nagata et al., 2020; Goel et al., 2022). Furthermore, this study focused on women specifically, but men are often understudied in ED research (Strother et al., 2012); as such, future research could look at how men with EDs may turn to nature for support.

Second, participants in the study self-selected. Only people who felt able and confident enough to reach out to us via email. As such, and as our participants shared, they were already passionate about how nature has supported them throughout their recovery process. Therefore, this study cannot speak to the experiences of people who did not have a positive relationship with nature as a child or to how someone who may be hesitant to try nature may respond to nature-based treatments. Future research could address this by focusing on how people with EDs who do not have a previous relationship with nature respond to nature-based therapy.

Third, the study's researchers live in the context of the study (North America), which could influence how the data has been perceived; therefore, it would be beneficial to have future researchers be of varied demographic background and lived experiences. Future studies could also utilize a mixed methods approach to combine quantitative measures and qualitative experiences to report how often participants are outside and how they interact with nature in a more formulated way. Future researchers could also conduct larger scale pilots that include

nature-based interventions in ED treatment programs, similar to Corazon et al. (2018), to explore the efficacy of nature-based treatments on patients.

Fourth, we chose to only include participants who had been formally diagnosed with and ED to remove any complicating variables. However, this removed a large subset of the ED population because many people who experience EDs or disordered eating never receive formal diagnoses or treatment (Harrop et al., 2019; 2021) either because they have so-called “atypical” presentations and do not qualify for formal help or they do not match all the requirements for a formal diagnosis. Future studies would benefit from expanding their participant pool to those who were not formally diagnosed with EDs in order to encapsulate more people who struggle.

### **Conclusion**

This thesis explored how spending time in nature could support ED recovery and maintenance through the voices of six participants from across Canada and the USA. Consistent with previous studies (Jepsen Trangsrud et al., 2020b; 2021; Corazon et al., 2018), the findings from the current thesis indicate that spending time in nature in a North American sociocultural setting could have positive benefits for supporting everyday ED recovery and maintenance. Participants shared that spending time in nature helped them appreciate and care for their bodies as well as helped calm their anxious minds, providing a foundation on which to build and maintain recovery. Participants also noted that being out in nature helped them feel connected to other people and other beings, leading to feeling a sense of belonging and a part of something bigger than themselves. They shared that nature was a non-judgemental space where all bodies were important and they were accepted just as they are. This study examined how spending time in nature may support ED recovery and maintenance and found that spending time in nature could be an accessible and affordable foundation for people suffering from EDs to build

recovery, find peace, experience positive embodiment, and connect to something larger than themselves.

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## Appendix A: Recruitment Letter

We are seeking participants for an interview-based study on nature and eating disorder recovery.

This study is being conducted by Megan Buchkowski, a second-year Masters in Counselling student at the University of Victoria, working under the supervision of Dr. Sarah Nutter (<https://www.uvic.ca/education/psychology/people/faculty/nuttersarah.php>)

This study aims to examine the effects of time spent in nature on eating disorder recovery. We are seeking participants who identify as cisgender women, as well as those who identify as trans or genderfluid and were socialized female during childhood. We will be asking questions related to your eating disorder, your relationship with your body, your relationship with being in nature during recovery and during the maintenance of recovery, as well around your experience of exercising in nature. Our hope with this research is to understand how nature can be turned to as an accessible resource for those dealing with, or in recovery from, eating disorders.

Compensation will be a \$30 Visa gift card.

You are eligible to participate in this study if you meet the following criteria:

- You are **over the age of 18**
- You live in **Canada or the USA**
- You have **previously received formal diagnosis** of an eating disorder, including AN, BN, BED, or ARFID
- You have been **in recovery from the diagnosed eating disorder for at least two years.**
- You identify as a **cisgender woman** or were **socialized as female** throughout infancy and childhood
- You do not have a **current active eating disorder or another mental health diagnosis** that will impair your ability to participate in the current study.

If you are interested in participating in this study, or would like more information, please contact me at [mbuchkowski@uvic.ca](mailto:mbuchkowski@uvic.ca). *Interested individuals should contact you privately instead of publicly via the platform, if they wish to maintain their confidentiality.*

**Social Media Post:**

Recruitment for Study:  
The Effects of Time Spent in  
Nature on Eating Disorder  
Recovery

Participation Criteria:

- over the age of 18
- live in Canada or the U.S.A.
- have received a formal diagnosis of an eating disorder
- have been in recovery for at least two years.
- identify as a cisgender woman or were socialized as female throughout infancy and childhood
- do not have a current active eating disorder or another mental health diagnosis that will impair your ability to participate in the current study.

This study is being conducted by Megan Buchkowski, a second-year Masters in Counselling student at the University of Victoria, working under the supervision of Dr. Sarah Nutter.

Interested individuals should contact you privately instead of publicly via the platform if they wish to maintain their confidentiality.

Email: [mbuchkowski@uvic.ca](mailto:mbuchkowski@uvic.ca)

## Appendix B: Participant Consent Form



**University  
of Victoria**

*Participant Consent Form*

### **Examining the Impact of Being in Nature on Eating Disorder Recovery**

You are invited to participate in the study entitled *Examining the Impact of Being in Nature on Eating Disorder Recovery* that is being conducted by Megan Buchkowski at the University of Victoria under the supervision of Dr. Sarah Nutter.

Megan Buchkowski is a second-year Master's in Counselling Psychology student. If you have any further questions about your participation that are not answered below, please contact Megan at [mbuchkowski@uvic.ca](mailto:mbuchkowski@uvic.ca). Dr. Nutter is an assistant professor in the department of Educational Psychology and Leadership Studies at the University of Victoria, and you may contact her if you have further questions by email at [snutter@uvic.ca](mailto:snutter@uvic.ca).

This research is being funded by a Canada Graduate Scholarship awarded to Megan Buchkowski by the Social Science and Humanities Research Council (SSHRC).

#### **Purpose and Objectives**

The purpose of this study is to examine if and how spending time in nature can support eating disorder recovery.

#### **Importance of this Research**

Research of this type is important because it will help researchers better understand the how nature may be utilized as part of a comprehensive treatment plan in eating disorder recovery.

#### **Participants Selection**

You are eligible to participate in this study if you: (1) are **over the age of 18** (i.e., a legal adult); (2) live in **Canada or the USA**, (3) have **previously received formal diagnosis** of an eating disorder, including AN, BN, BED, or ARFID; (4) are currently be in recovery from the diagnosed eating disorder and have been **in recovery for at least two years**. This to ensure recovery stability, given that his research does not involve a psychotherapeutic component; (5) have been **socialized as female** throughout infancy and childhood, but **do not currently have to identify as female**; (6) **do not have impaired perceptions** (e.g., psychosis), a **current active eating disorder** or a mental health diagnosis that will impair their ability to participate in the current study willingly and with informed consent.

#### **What is involved**

If you consent to voluntarily participate in this research, your participation will include participating in a recorded Zoom interview that will last 60-90 minutes, during which you will be asked questions about your eating disorder and recovery, how you spend time in nature, your experience of being outdoors, your relationship with nature, and how nature may have supported your eating disorder recovery.

Following your interview, you will also be provided with the opportunity to review a transcript of your interview. At this time, you will be able to remove any information you do not want included in the

research. In total, your participation will take approximately 2-4 hours of your time, spread out over two interviews as well as independent transcription review.

You are being recruited for this research via a recruitment request in Dr. Michael Levine's Body Image and Eating Disorder listserv and through the Looking Glass Foundation.

*Please be advised that this research study includes data storage in U.S.A. As such, there is a possibility that information about you that is gathered for this research study may be accessed without your knowledge or consent by the U.S. government, in compliance with the U.S. Freedom Act.*

### **Inconvenience**

Participation in this study may cause some inconvenience to you, including the time it takes to conduct the interview and review the transcript.

### **Risks**

There are some potential risks to you by participating in this research, including feeling a range of emotions and negative feelings such as discomfort with subject material. To prevent potential risks, **you may decline to answer any questions you do not want to answer or leave the interview at any time.** You may also experience some fatigue during or after the interview.

If any negative feelings persist and you wish to seek mental health services, you are encouraged to seek out local mental health services.

- If in Canada
  - Canadian Mental Health Association: <https://cmha.ca>
- If in BC:
  - Canadian Mental Health Association of BC: <https://cmha.bc.ca>
- If a local (Victoria based) participant
  - BC211 <https://www.bc211.ca/>
  - Victoria Branch of the Canadian Mental Health Association <https://victoria.cmha.bc.ca/>
  - Cushing's Support and Research Foundation <https://csrf.net/living-with-cushings/>
- Other supports are available via the Canadian Mental Health Association: <https://cmha.ca/find-help/find-cmha-in-your-area/>
- If in the USA:
  - Mental Health: <https://www.mentalhealth.gov>
  - National Institute of Mental Health: <https://www.nimh.nih.gov>

### **Benefits**

The potential benefits of your participation in this research include helping researchers to better understand how spending time in nature could be an accessible and helpful support for individuals working towards eating disorder recovery and/or supporting the maintenance of recovery.

### **Compensation**

To compensate you for any inconvenience related to your participation, you will be given a \$30 Visa gift card.

### **Anonymity**

In terms of protecting your anonymity, pseudonyms will be used to discuss your interview in the research; your name will not appear anywhere in the reporting of findings from this research and all identifying information will be removed during transcript review. Should you agree to participate, you will be asked to provide your age, race/ethnicity, sexual identity, gender identity, highest level of education, average yearly income, eating disorder diagnosis, and eating disorder recovery.

### **Confidentiality**

Your confidentiality and the confidentiality of the data will be protected in several ways. No one except the research team will have access to the data collected in this survey. The recorded interviews and transcripts will be kept in password-protected digital files to be accessed only by members of the research team (Megan Buchkowski and Dr. Sarah Nutter). Cloud based recording and file sharing will be disabled for Zoom; only researchers will be able to access the recorded files and they will be kept in a password protected file as stated previously. The recorded interviews will be downloaded directly to the researcher's private password protected computer.

### **Dissemination of Results and Disposal of Data**

If you decide to participate in our study your de-identified data will be used in only this study. It is anticipated that the results of this study will be shared with others in the following ways:

- Publication of results in a peer-reviewed journal article
- Presented at academic research conferences
- University classroom presentations
- Summarized on the University of Victoria's research page as part of Megan Buchkowski's SSHRC award.

Once this research has been completed, all data that identifies participants will be destroyed (original interview recording, original transcripts). It is anticipated that data will be securely stored for up to five years after the original interviews are conducted.

### **Contacts**

If you have any further questions or want clarification regarding this research and/or your participation, please contact Megan Buchkowski at the email [mbuchkowski@uvic.ca](mailto:mbuchkowski@uvic.ca)

In addition, you may verify the ethical approval of this study, or raise any concerns you might have, by contacting the Human Research Ethics Office at the University of Victoria (250-472-4545 or [ethics@uvic.ca](mailto:ethics@uvic.ca)).

By signing this form, you are indicating that 1) you understand to your satisfaction the information provided to you about your participation in this research project, and 2) you agree to participate in the research project.

### **Consent**

I have read and understood the above information. I agree to participate in this interview.

I do not agree to participate in this interview.

**Name (typed or signature):** \_\_\_\_\_

**Date:** \_\_\_\_\_

**Please print a copy of this form for your records.**

### Appendix C: Demographic Survey

**Do you agree with each statement:**

- Participants must be **over the age of 18** (i.e., a legal adult)
- Participants must live in **Canada or the USA**
- Participants must have **previously received formal diagnosis** of an eating disorder, including AN, BN, BED, or ARFID.
- Participants must currently be in recovery from the diagnosed eating disorder and have been **in recovery for at least two years**. This to ensure recovery stability, given that his research does not involve a psychotherapeutic component.
- Participants must have been **socialized as female** throughout infancy and childhood, but **do not currently have to identify as female**.
- Participants **must not have impaired perceptions** (e.g., psychosis), a **current active eating disorder** or a mental health diagnosis that will impair their ability to participate in the current study willingly and with informed consent.

Age: \_\_\_\_\_

Current Gender: \_\_\_\_\_

Sexual Orientation: \_\_\_\_\_

Racial/Ethnicity Identity: \_\_\_\_\_

Highest level of education: \_\_\_\_\_

What is your average yearly income? \_\_\_\_\_

**Pseudonym:**

For the purposes of confidentiality, we are asking our participants to pick a pseudonym that will be attached to the experiences you share. This pseudonym will be used in data analysis as well as in the final written report.

Chosen pseudonym: \_\_\_\_\_

**Eating Disorder-specific Demographics:**

Were you formally diagnosed with - *Select all that apply:*

Anorexia Nervosa

Bulimia Nervosa

Binge-Eating Disorder

Avoidant Restrictive Food Intake Disorder (ARFID)

Other:

When were you diagnosed (please give year or month & year): \_\_\_\_\_

How long have you been in recovery?

Less than a year

1 – 2 years

2 – 5 years

5 – 10 years

More than 10 years

### Appendix D: Interview Questions

1. Can you briefly tell me the story of your eating disorder? Specifically, what I'd like a summary of is when/how your ED began, when/how you received treatment, if/number of times you relapsed, and your recovery journey.
2. What would you say are the main supports to you healing from your ED?
3. When I say "being in nature", what does this mean to you?
  - a. What's your relationship to or experience in being in nature?
4. Tell me about your experience in nature before your ED.
5. For this question, I'm interested in when you were in treatment for an active ED. During this time did you/how did you turn to nature for support?
  - a. Was nature integrated into your formal or informal treatment?
6. For the next question, I'm interested in recovery: in what way do you turn to nature to support your ED recovery?
  - a. How is this integrated regularly day-to-day in your recovery?
7. How does time in nature support your relationship with your body?
  - a. If the participant talks about only treatment OR recovery, ask a follow up question to inquire about the one not discussed.
  - b. If participant doesn't talk about their relationship with their body in different spaces, ask: how is your relationship with your body different in the not in nature vs. in nature?
8. How does the experience of moving your body in nature differ from moving your body in other settings, such as a gym?
  - a. Who are you doing this with?
9. Have you felt that being in nature is an accessible place for you as a/n INSERT GENDER IDENTITY HERE?
  - a. What was it that being a/n INSERT GENDER IDENTITY HERE that made nature feel inaccessible?
10. Is there anything that you want to talk about?

## Appendix E: Recruitment Follow Up Email

Dear NAME,

Thanks so much for your interest in this research.

*(if the potential participant asks any questions that are not answered on this form, it will be provided here)*

I have provided more information about the process of the study below and have attached a copy of the consent form for the research to this email. This form contains additional information about the research, including the purpose of the project and what we can offer you in exchange for your participation.

How the research will work:

If, after reviewing the attached consent form, you agree to be a part of this study, I ask that you please complete the electronic consent form and demographics survey using the link provided at the end of this email. Once that is completed, we will then set up a time that works for both of us to meet over zoom, where I will ask you a series of questions about your experience of spending time in nature to aid in your eating disorder recovery as well as your relationship to nature and your body. This interview will be recorded on zoom and last approximately 60 - 90 minutes. I would ask that you make sure you are joining the meeting from a location that is quiet, private, and comfortable for you.

Once we complete the interview, I will transcribe it word for word. Approximately 3 – 4 weeks after your initial interview, I will email you this transcript for you to review. This is to ensure that I have accurately and appropriately captured your experience and what you said. There will also be an opportunity to review the written report before it is finalized for you to give feedback on the findings and their accuracy to your experience.

Please let me know if you have any additional questions before making your decision on whether or not you would like to participate. If you would like to participate, please complete the online consent form and demographic survey.

Thank you for your interest,  
Megan Buchkowski