

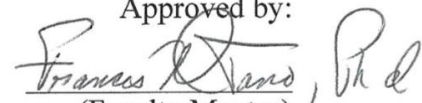
HIKING AS NATURE'S THERAPY

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**Abstract**

Hiking is a favorite recreational activity of Americans. It allows for one to stay in physical shape while exploring nature. This paper explores how hiking can be used as a therapy with benefits for the mind, body and spirit. Hiking has been shown to demonstrate a change in a person's attitude which leads to changing behavior. This change in attitude and behavior creates a positive outlook on one's self, relationships, and life. The literature provides personal stories of how hiking has been able to improve one's state of mind which then helps to improve their life. Other literature explored showcases studies demonstrate hiking's positive effect on mental illness and cognitive functioning. Research conducted with Southern New Hampshire University's Region Geography integrates personal interviews of students' perceptions of hiking and its benefits. Students describe hiking as a calming and positive experience. The following research effectively explores the topic and helps to determine that hiking can be used as a therapy.

*Keywords:* Hiking, therapy, wilderness therapy, nature

## Introduction

Ever since I can remember I have been a lover of the outdoors, but until recently I never understood the effect that nature can have on a person's mental and physical health. Many of my friends in high school learned how to ski or surf which became their hobbies, but I always wanted something I found to be more peaceful and mindful. I started going on hikes on the weekends for the views and admittedly, for the Instagram likes. However, it quickly turned into a way for me to escape from the difficulties I endured as an adolescent. I found that I was able to manage life better after I cleared my head during a hike. For me, hiking transitioned from a hobby to something that helped me to manage my reality in a therapeutic way. Through numerous studies, memoirs and research, I have found that hiking is a therapy for many, and it is a way for people to cope and grow, similar to myself and my experiences.

Contemporary society rarely allows us to relax our mind and take time for ourselves. We are working countless hours, stressing over an exam or trying to keep up with the latest trends. Society does not allow us to take time out of our day to just sit in silence and think. Contrary to this, hiking silences our external world, allowing our minds some clarity (Roller, 2019). Our minds and our bodies need a break from the constant stimulation that we are putting ourselves through. Hiking allows us to sweat out the frustrations from a long work week in an open area with fresh air. All senses are heightened during a hike, allowing us to experience nature in its fullest form, connecting us with our roots to this earth. Physical activity induces the release of endorphins which helps a person to feel happy. The end of a hike leaves a person feeling accomplished and clear minded. It gives us the opportunity to better understand ourselves and the complications of life. Taking time to appreciate the Earth that we come from helps us to become more mindful and better manage our reality (Roller, 2019).

## **History of Hiking**

The 20<sup>th</sup> century introduced hiking for pleasure as a new concept (Nye, 2020). Prior to the mid-1800s, America was mostly rural, so walking in nature was a part of daily life, therefore reflection time was always present. With urbanization, more people began to live in cities, close together. Poor farmers were drawn to the cities for better jobs and wages. The small family farm gave way to huge farming companies. Walking in the woods started to become a luxury for most people, and at the end of the 19<sup>th</sup> century, hiking was recognized as a recreational activity. American's lives began to be structured around work, school and social activities no longer allowing for rural walking to be part of everyday life (Nye, 2020).

America grew progressively interested in the importance of health and social conditions in the late 19<sup>th</sup> century (Nye, 2020). This is when parks started to emerge all over the country giving people the opportunity to enjoy the outdoors in a protected area. Clubs and organizations began to erupt bringing together those that loved the outdoors so that they could hike and enjoy nature together. Outing clubs were particularly popular and some of them are still around today, such as the Sierra Club and the Appalachian Mountain Club. More clubs began to form, as well as more protected forests and parks. Soon enough, hiking became one of the favorite recreational activities of Americans (Nye, 2020).

## **Evidence for Hiking as Therapy**

Hiking began as a way to improve social and physical health in America but was not seen as therapeutic until the late 1900s. Programs started to form that took groups into the woods to help to overcome emotional and psychological problems (DeAngelis, 2013). At first, wilderness therapy was geared toward troubled teens, usually involved in the juvenile justice system. Programs would take groups of troubled teens into the woods and create challenges for them to

complete. These programs soon took the form of boot-camps, creating unsafe conditions for children (DeAngelis, 2013). Outward Bound, an organization created by Steve DeBois, was involved in one of the first initiatives to change wilderness therapy (DeAngelis, 2013). Created in 1939, Outward Bound's mission "is to change lives through challenge and discovery. While perhaps ambitious and bold, our vision is a more resilient and compassionate world, with more resilient and compassionate citizens" (Outward Bound, 2020). DeBois used evidence-based approaches and cognitive-behavioral therapy to combat negative thinking. He also used exercises geared toward fighting depression, anxiety, and social phobia. He took groups of teens into the woods to use therapy through camping and hiking. Outward Bound created a whole new world of therapy. This type of therapy not only created group programs, but also introduced people to the idea of going into the woods alone to find peace (DeAngelis, 2013).

### **Treatment Programs**

Since the creation of Outward Bound, wilderness treatment programs have begun to pop up all over the country and are gaining more popularity. These programs can be residential and combine the work of therapists and outdoor instructors in order to provide the most effective and longest-lasting treatment. There is a large emphasis on peer relations and group sessions in order for patients to get the most out of their treatment. In addition, part of what makes this experience therapeutic are the challenges that are associated with hiking and camping. These challenges force individuals out of their comfort zones and allow them to turn their attention to what needs to be done rather than challenges they are facing internally (DeAngelis, 2013). Some of the organizations that provide wilderness therapy programs are Outward Bound, Trails Carolina, Summit Achievement, and Second Nature. These organizations are located all over the country

and are very similar in their structure and outcomes of the program. One program, Second Nature, is explained in more detail.

### **Second Nature**

Second Nature provides services for all ages; however, they are primarily focused on adolescents (Second Nature, 2017a). Their philosophy is that the most effective treatment for adolescents requires integration, meaning all parts of the program need to be interwoven in order for clients to receive the most effective treatment (Second Nature, 2017a). There is a therapist that patients will see, in an office setting, as well as a field instructor they are assigned to that leads them through all outdoor programs and activities (Second Nature, 2017b). The therapist and the field instructor work together to determine the best route for a student to follow during their treatment. The field instructor will often sit in on the therapy sessions, and the therapist will be in the field with them as much as possible. Second Nature also employs a nutritionist who works with the adolescent to develop and implement nutrition plans. They help to establish healthy eating habits because with healthy eating habits, a person is able to think more clearly and feel better about themselves (Second Nature, 2017b).

There are a wide range of what kind of problems Second Nature adolescents are dealing with when they enter the program (Second Nature, 2017a). Adolescents may be struggling with a mental health diagnosis, behavioral problems, developmental issues, learning disabilities, substance abuse or dependence, school problems and relational difficulties (Second Nature, 2017a). Depending on the kind of issues that adolescents come to the program with will determine the groups, therapist and field instructor that they will be assigned to (Second Nature, 2014b). For example, those with substance abuse or dependence are placed into a group that focuses primarily on substance abuse and dependence. Their program is oriented around a 12-

step model that prepares them to continue to participate in Alcoholics Anonymous when they leave the program. Each disorder or difficulty that an adolescent enters the program with has its own program that addresses the problem and focuses treatment toward that specific problem. This allows for a more fine-tuned treatment with the ability to transition out of the program with the right tools for recovery. Upon going home, Second Nature helps the patient find resources at home that will continue to assist them. In addition, by the end of the program Second Nature has provided teens with the tools necessary for survival in nature. Therefore, the teens can continue to use nature and hiking as a therapy on their own time at home (Second Nature, 2017b). When entering Second Nature, Adolescents complete a questionnaire that measures their level of functioning (Second Nature, 2017e). At the end of the program, Adolescents take the questionnaire again and it is found that the students self-report fewer emotional struggles, increased hopefulness and more success in their relationships. Six months after leaving second-nature, staff reach out to them and have found that students are maintaining the growth they achieved while in the wilderness (Second, 2017e).

Second Nature, along with many other wilderness therapy programs, have found that it is most effective to break the program into phases (Second Nature, 2017d). The first phase at Second Nature, is the "Earth Phase" where adolescents become oriented to the program. They are matched with a peer mentor, who will help them with the transition. The child observes the way the program works for the first couple days so that they can get acclimated to the environment. In this phase, children are required to write their "life story" and own up to their own faults. This is the first step in directing children toward a brighter future by showing them their mistakes, if any. They must first understand why they are in the treatment program in order for it to be effective (Second Nature, 2017d).

Adolescents are then introduced to the “fire phase,” where they meet the group they will be working with and learn about transformation, work and personal responsibility (Second Nature, 2017d). The main focus during this stage is accountability. They read parents’ impact letters so that the child can understand how their behaviors or emotions have affected the family. The next phase is the “water phase” where the program allows them to become independent. They are able to make calls home and take part in creating their treatment plan. The adolescent then begins to transition out of the program. This transition planning begins on day one, but toward the end of the program the therapist and the field instructor work with the student to prepare them for aftercare programs or to be on their own (Second Nature, 2017d).

Second Nature uses effective and evidence-based treatment methods to treat adolescents and all those who are struggling (Second Nature, 2017c). The freeness from distractions provides little for the adolescent to hide behind, forcing them to be present with their treatment. By experiencing natural lessons that life has to offer through living in the context of the natural environment, adolescents take accountability for their actions because there is nothing that is allowing them to do otherwise. Adolescents experience significant personal growth through Second Nature. They begin the program with little self-esteem and an immense amount of self-doubt but having to overcome natural challenges, boosts their self-confidence and reveals feelings of adaption, resilience and other coping attributes (Second Nature, 2017c).

### **Evidence in Memoir**

Wilderness therapy programs are organized, guided, evidence-based programs that help people overcome their struggles. In addition to these programs, numerous people have found hiking or even simply being in nature to be therapeutic. Hiking alone or socially in itself is a therapeutic experience that allows a person to clear their mind and relate back to their natural



roots. This is obvious in multiple memoirs such as, Tracy Ross in her book *The Source of All Things: A Memoir*. Throughout the book, Ross discusses the hardships that she endured during her childhood and how she was able to find comfort in the outdoors (Ross, 2011). Ross never knew her real father, but her mom had married a man named Donnie whom Ross grew close with and referred to as “Dad.” She loved him because he was protective, brave and kind, as a father should be, she thought. Unfortunately, Donnie grew to have a dependence on his eight-year-old daughter’s companionship that went too far. The abuse started when she was just eight and continued as she grew older. Donnie would visit Tracy at night while the rest of the family was sleeping, which escalated to him coming home during his lunch at work to abuse her. Ross’s childhood was confusing and conflicting. Part of her childhood consisted of normal milestones, while being terrified for her safety. In addition, she loved her father because he took care of her when her real dad was not there, creating a terribly confusing inner dialogue (Ross, 2011).

Even though her family was aware of the abuse, they never did anything to stop it (Ross, 2011). It was not until she ran away from home as a teenager and went to the authorities that they were forced to confront it and take action against it. However, Tracy still did not feel like her family was able to handle the truth. She sent herself off to boarding school at 16, where she began a slow process of recovery. At boarding school, she had relearned her love for the natural world and decided to spend more time in it. The mountains and rivers provided her with strength, confidence, comfort and inspiration she thought she would never gain back. Throughout her young life, she lived and explored in Alaska, Utah, Colorado, Washington and several other places in North America. She constantly pushed her physical limits as an attempt to feel whole again. As she began starting her own family, she still felt overpowered by the abuse that she had experienced as a child. The only way that she felt she could truly heal was confronting her

stepfather about the abuse. Her and Donnie went a backpacking trip by themselves at the original place of abuse and she confronts him about it. She felt that backpacking was one way to get the truth out of him because nature does not allow a person to hide behind anything. The conversation that the two had while on their backpacking trip allowed her to feel confident in having a new family (Ross, 2011).

Tracy Ross tells a story of not only bravery and courage, but also the power of nature. When she was working for a wilderness therapy program, she talked to them about how nature can help to heal a person. Ross (2011) states "...I loved the simplicity of walking all day only to lay my head on the sandy earth at sunset. I liked the stars buzzing over my head. The desert killed people who didn't know how to find shade or water. But it didn't hate them or prey upon them, the way dads sometimes preyed on their daughters" (p. 156). Ross believes that the earth is much more trustworthy and forgiving than humans. It does intend harm, and it does not prey upon or single any person out. Nature provides a person with the tools to survive and simplicity. This simplicity allows a person to relax and take in the natural environment. This can be therapeutic to someone who is used to chaos in their life and has a hard time finding calm.

Not only does nature allow one to understand themselves, it also allows two people to grow even closer together. There are no walls or technology for people to hide behind in nature. This is why Ross chose to bring her stepfather on a backpacking trip when she needed to get the truth out of him. He was not able to hide behind anything and their conversation was forced by the fact that he could not pretend that he was too busy. She needed an answer from him, and even she was forced by nature to sit there and listen to what he had to say, even though the last thing she wanted to do was relive the abuse. In addition, nature gives Ross a sense of safety, therefore she felt calm and safe during this conversation. Regardless of whether or not she

forgave him for what he did, having this conversation while on a backpacking trip brought them closer together. Both of them got out what needed to be said without anything or anyone intervening. Ross shares her story of abuse and shows the world how she was able to recover from it using nature and hiking.

### **Choosing to Hike**

Through research, it was found that there are many reasons that a person may choose to hike. In the following section, the reader will find how attitudes change through behavior, the benefit of temporarily removing one's self from society and a new appreciation for nature and one's self.

### **Changing Attitude through Behavior**

A person becomes more self-aware and appreciative of nature, which affects and changes a person's attitude. While hiking, a person is able to replace negative thoughts with physical exertion. When the hike is difficult, it does not allow room for outside negative thoughts. A person's focus begins to center around the challenge of getting to the top of the mountain. Their entire mental and physical focus turns to their breathing, muscle movements and the rest of the trail that lays ahead of them. Mental and physical feelings merge with one another to enhance one's self-awareness. This new focus turns a person's brain from intrusive thoughts to focusing on the current moment and finishing the hike. Once a person completes a difficult hike, they are going to feel accomplished. This feeling of accomplishment will help them to realize they are able to accomplish other things in their lives. A person will start to know that if they can make it to the top of this mountain, they will be able to accomplish other things in their lives, that they otherwise may not have believed. Hiking turns belief and hope into knowing by doing something that the person previously did not think was possible.

Being able to accomplish a hike, not only temporarily distracts a person but provides the tools to change one's state of mind. When a person feels this accomplishment, their doubtful thoughts will turn into positive thoughts. These positive thoughts help to improve a person's mental state. They turn their self-doubts into self-confidence. By having these positive thoughts, a person will inspire themselves to create new goals. A person may begin by creating new hiking goals for themselves, finding a more difficult hike each time they go. As they continue to accomplish these hikes, they will realize that they can accomplish other goals in their life and will create goals related to relationships, career, their emotional state and many other aspects of their lives. The impossible becomes probable and the probable becomes the doable.

### **Removing Self from Society Temporarily**

Being in nature gives one the chance to temporarily remove themselves from society. Contemporary society rarely gives us a chance to slow down and sit in silence. We work full time jobs while needing to balance our social and family lives. Even if we go on a walk in the city, we are surrounded by noise, people, and pollution. Going into nature, whether it is for a hike or not, gives us a chance to free ourselves from distractions. By removing one's self from the hustle of society and their duties and worries, it can allow one to think clearly. Hiking offers a person clarity which helps them to think more thoroughly and perform their duties better. A study conducted by Stanford University showed that walking in nature produces multiple benefits that walking in an urban area does not (Bratman, Hamilton, Hahn, Daily, Gross, 2015). Two study groups walked for 90 minutes, one in a grassland area and the other group along a traffic-heavy, four-lane roadway. It was found that negative emotions decreased in the participants who walked in nature versus those who walked in an urban environment (Bratman, Hamilton, Hahn, Daily, Gross, 2015). This study helps to show that walking in nature can calm

our minds and our bodies. When a person is not caught up in the constant demands of society, they are able to take a step back and think clearly. This allows them to remove themselves from society and look at the bigger picture. Mental, emotional and physical downtime gives us clarity that society does not allow.

### **Appreciation for nature and self**

Nature allows for a person to relax and clear their mind, giving them the chance to take in what they are seeing, feeling and hearing. With a clear mind, a person can appreciate nature at its core. They are able to see the true beauty of nature which leads to them becoming more appreciative of all of nature's aspects. A person may see observe things about nature that they have never seen before, like certain plants or animals. The only way that they will be able to see and experience these new things is if they take time out of their busy lives and go into nature. Not only will a person learn how to appreciate nature, they will also learn how to appreciate themselves. While hiking a person learns a lot about themselves, including their physical abilities and emotional state. They are able to understand how their own mind works. This then helps the person to appreciate and love themselves.

### **Preparation**

Hiking may appear to be an easy activity that one can start without preparing for, but it is quite dangerous to do so. A person needs to prepare physically, ensure they have the correct equipment, mentally, and socially. The following section describes how to prepare for a hike.

#### **Physical**

Hiking is both a physical exercise as it is a mental one. The physical exertion of a hike requires that a person prepares ahead of time (Backpacker editors, 2019). They must raise their stamina and ensure that their body can handle hiking. There are many tips provided by

professionals that are provided in order to prevent injury and maximize enjoyment on a hike.

These tips compiled by the editors at Backpackers should be completed prior to hiking, as part of training, and are listed below:

- Run or walk in sand to build the muscles that protect knees and ankles
- Use a resistance band to strengthen muscles to their full extension to build a range of motion
- Stand on a tennis ball or balance disc in order to build the stabilizer muscles around the knee or ankle
- Do crunches to build core strength to help keep balance
- Do squats and lunges to help keep back straight
- Do push-ups to help carry a heavy back
- Do cardio in order to help with stamina
- Practice going up-hill with the pack on
- When training, wear the same shoes/boots as you would on your hike
- Start with a light pack and gradually increase the weight
- Lift weights to build strength

In addition to doing these exercises, it is recommended that one starts off with smaller hikes and works their way up to larger, more challenging hike. By starting with smaller hikes, the body will build the muscles that are necessary during hiking and these muscles will become stronger the more hiking that is done (Backpacker Editors, 2019).

## **Equipment**

When hiking, a person or group is usually in the woods with very few people around, and most likely no cell phone service. This means that it is critical to be prepared for any situation

(REI, 2020). Having the correct equipment can make the difference between a great hike and a dangerous hike. REI, a popular hiking apparel and equipment brand recommends having the following when planning to hike:

- Hiking backpack
- Weather-appropriate clothing (moisture-wicking and layers)
- Hiking boots or shoes
- Plenty of food and water
- Navigation tools such as a map and compass
- First-aid kit
- Knife or multi-tool
- Headlamp
- Sun Protection
- Fire (matches, light, tinder)
- Shelter (tent, sleeping bag)

If one is planning to go on an overnight, backpacking trip they will also need:

- Tent
- Sleeping bag and sleeping pad
- Stove and fuel
- Kitchen supplies
- Water-treatment supplies
- Emergency and hygiene supplies
- Small repair kit

These items may differ depending on the location of the hike, but these supplies are generally what a person will need to prepare for any situation (REI, 2020). The quality and price of the equipment varies, but it can be found at any outdoor sports store (i.e., Sierra, EMS, or L.L. Bean in New England). There are also camping/hiking thrift stores where used equipment can be bought at a much cheaper price. It is also important to look at the forecast before beginning to trek (REI, 2020).

### **Mental**

For a person who does not hike often, getting to the top will seem intimidating. The desire to get to the top needs to be greater than the fear of the hike. As previously discussed, it is critical that the body is physically ready for a hike. This strong body helps to get a person into nature, but what makes that time count is a well-trained mind. There are numerous mindful techniques to practice while hiking that will make the hike more mentally productive. The first of these techniques is to stay present (Kulas, Kulas, 2020). The main goal of hiking as a therapy is to reduce stress, but this cannot be done if the inner monologue is constantly running. As one is hiking, they should turn their attention toward the action of walking, feeling muscles tighten and relax. One should direct all thoughts to breathing, practicing breathing in through the nose and out through the mouth. Throughout the hike, especially when it may become difficult, it is helpful for a person to repeat an affirmation to themselves because positive self-talk boosts performance (Kulas, Kulas, 2020).

The next technique to mindful hiking is to cultivate the senses (Kula, Kula, 2020). By turning on sensory perception, a person becomes more conscious of their surroundings. This helps to boost comfort while hiking and increase relaxation. Taking full advantage of all the senses during a hike allows a person to get the best experience out of a hike. People often think



they are seeing to their fullest potential to a hike, but there is a lot that can be overlooked. By taking time on a hike to note sights that may typically be missed, colors and textures will be absorbed that add to the experience of nature. Hearing one's footsteps and breathing allows one to stay present. In addition, listening to the sounds of nature that are not normally heard, should allow for new feelings. How these sounds make one feel should be recognized and addressed (Kulas, Kulas, 2020).

The final technique of mindful hiking is to hike with intention (Kulas, Kulas, 2020). If there are relational issues within a person, it may be helpful to dedicate some attention to someone that one cares about. This amplifies time spent in nature by fostering compassion and reducing stress while helping us become more patient. We also feel less lonely when we are thinking of loved ones while on a trail because we will feel their presence. While we are thinking of this person, some find it helpful to set a positive intention or wish for this person. Finally, one should practice expressing that intention back on themselves. If one is able to have a positive wish for a loved one, they should be able to have the same or similar positive wish for themselves. While it is easy to tell a person to hike because it will clear their mind, they may not have the tools to do so or understand how to clear their mind. By practicing mindfulness techniques, the person will be able to set goals for themselves that are attainable to achieve mindfulness (Kulas, Kulas, 2020).

### **Social**

Hiking is both a social and individual activity. While it is important to hike alone in order to clear one's mind and to better understand themselves, it is also important to hike with others for the same reasons, as well as bonding with those who enjoy the same activity. If one does not have any friends or family who hike, it can be intimidating to hit the trail alone. There are dozens

of outing groups and hiking clubs that one can join. On SNHU's campus, there is the Outing Club that goes on different trips and allows students who like the outdoors. There are also Facebook groups that people can join to meet others who like to hike, get tips, and even meet up with some on the trail. These groups include "All Women All Trails: Hiking and Backpacking," "Hike New Hampshire," and "Maine Hiking." These are just groups that are local to New England but there are a large number of these Facebook groups that exist for all parts of the country. In addition, there are hiking groups located near Concord, NH called "4 Seasons Hiking Group," "Life's a hike," and "At a Snail's Pace Hiking Group." These groups are for beginner level hikers and the way to intermediate that are meant to bring hikers together. Researching these groups prior to hitting the trail may be the best option for someone who is looking to hike with others in a therapeutic way.

### **Benefits of Hiking**

A variety of benefits of hiking has been found. Research has shown that it can be beneficial in all parts of life. The following section highlights research on just some benefits that hiking can have on a person. In this section, the reader will find how it benefits Attention Deficit/Hyperactivity Disorder, cognitive effects, and mental health.

#### **ADHD**

Once a person has begun hiking, they are going to notice a positive difference in their state of mind (Kuo, Taylor, 2004). Hiking is therapeutic for all different types of populations and provides a variety of different benefits. As stated throughout the paper, contemporary society no longer gives us the opportunity to relax and focus. Attention Deficit Hyperactivity Disorder (ADHD) is characterized by unusually high and chronic levels of inattention, impulsivity/hyperactivity or both and is the most common neurobehavioral disorder of childhood

(Kuo, Taylor, 2004). It affects more than 2 million school-aged children. Those with ADHD, have difficulty focusing in school, social settings or work. They are distracted easily and find it hard to follow instructions (Kuo, Taylor, 2004). The Center for Disease Control and Prevention state that “if untreated, a person with ADHD will struggle with impairments in crucial areas of life, including relationships with peers and family members, and performance at school or work.” Treatment for the disorder may include behavioral therapy, counseling or medications, however, these treatments fall short of ideal and only offer temporary relief of symptoms (Kuo, Taylor, 2004).

Recent research explores the possibility of “green space” reducing ADHD symptoms and improving attention in children (Kuo, Taylor, 2004). A study was conducted among families with at least one child that suffered from Attention Deficit Hyperactivity Disorder. 452 parents answered a survey that was posted on the website of Children and Adults with Attention-Deficit/Hyperactivity Disorder. The aim of the study was to examine the impact of natural settings on ADHD symptoms across diverse sub-populations of students. Parents of children aged 5-18 diagnosed with ADHD answered the survey. They rated the aftereffects of common afterschool/weekend activities on their child's ADHD symptoms, specifically paying attention to the child's difficulty to remain focused on unappealing tasks, difficulty in listening and following directions, difficulty in completing tasks, and difficulty in resisting distractions. For each activity that the child participated in, parents were asked to indicate whether the activity generally resulted in their child's symptoms being worse than usual, same as usual, better than usual, or much better than usual (Kuo, Taylor, 2004).

The results of the study found that outdoor activities taking place in nature significantly reduced symptoms (Kuo, Taylor, 2004). Symptoms were more significantly reduced during

activities that took place in natural environments than in any other environment (indoor or outdoor). Not only did activities in natural environments reduce ADHD symptoms, they also had more positive aftereffects on symptoms than other activities. For example, a child who plays in nature for a few hours a day will be able to improve their ability to remain focused on unappealing tasks. This study shows us that even being in nature for a few hours a day will reduce ADHD symptoms in children. It will also have more positive aftereffects on symptoms, improving focus in ADHD children. Hiking, or even being in nature can act as a supplement of therapy to help to reduce the symptoms of ADHD (Kuo, Taylor, 2004).

### **Cognitive Effects**

The modern environment for Americans today is an urban environment, leading to a decrease in the exposure to natural settings and an increase in technology use. Data shows that today, children only spend about 15-25 minutes in outdoor play or sports (Atchley, Strayer, Atchley, 2012). Approximately 80% of kindergarteners are computer users. Since 1981, there has been a 20% decline per capita visits to national parks. These statistics are scary because it is the new reality, and there are so many experiences and sights that we are missing out on because of our dependency on technology. Attention Restoration Theory suggests that nature has specific restorative effects on the prefrontal cortex. Interactions with nature are particularly effects in replenishing depleted attention resources. Stated simply, Attention Restoration Theory suggests that nature is able to restore the effects of our prefrontal cortex that have depleted our attention and memory (Atchley, Strayer, Atchley, 2012).

A study conducted by the department of psychology at the University of Kansas examined changes in higher-order cognitive production after sustained exposure to nature (Atchley, Strayer, Atchley, 2012). 56 adults who were already involved in wilderness

expeditions run by Outward Bound participated in the study. Participants were split into eight hiking groups, and these groups were then assigned to be a “pre-hike” group or an “in-hike” group. All hikes involved backpacking through the wilderness for 4-6 days and participants were prohibited from using any technology. In order to test higher-order cognitive production, the Remote Associates Test (RAT) was used. The pre-hike group completed the RAT prior to starting their trip and the in-hike groups completed the RAT on the beginning of their fourth day of the trip (Atchley, Strayer, Atchley, 2012).

The results found that there was at least a 50% increase in performance after four days of exposure to nature (Atchley, Strayer, Atchley, 2012). Higher-order cognitive skills improved with sustained exposure to a natural environment. The reason behind this could be due to the fact that natural environments, like the environment that we evolved in, are associated with exposure to stimuli that evoke a fascination that is emotionally positive and low arousing. In addition, because exposure to nature is in decline and use of technology is on the rise, removing the technology and being placed in a more positive and low-arousing restorative environment improves our cognitive abilities. On a hike, the mind is able to enter a state of wandering. This wandering has been shown to be interrupted by multimedia use, which requires an external attentional focus. By removing a cost, technology, a benefit is added, the activation of brain systems that improve thinking. Technology does not allow our minds to wander, which does not allow us to think creatively. It is not until we are placed in an environment, with no technology, and surrounded by nature, which is visually appealing, that we are able to listen to our thoughts and let our minds wander (Atchley, Strayer, Atchley, 2012).

### **Suicide Prevention**

Each year worldwide, approximately 1 million people commit suicide and another 10-20 million attempt suicide (Strum et. Al., 2012). Of all the factors associated with suicidal thoughts, hopelessness is considered to be one of the most significant long-term suicidal risk factors. In previous studies, exercise shows similar results to antidepressants for symptoms of depression, as well as lower recidivism rates of depression. The purpose of this study was to investigate the effectiveness of therapeutic endurance training during mountain hiking for high-risk suicide patients. Hiking could provide an appropriate return to physical activity for those at risk for committing suicide. Positive effects through moderate endurance training are offered as well as positive outdoor experiences and relationships among the hiking group (Strum, et. Al., 2012).

Fifteen participants were recruited that had been in inpatient care at the Psychiatric University Clinic prior to the study, and all suffered from some type of mental disorder (Strum et. Al, 2012). These participants were separated into two groups for the study. Hopelessness was measured using the Beck Hopelessness Scale. This measurement took place before hiking phase 1, in between the hiking phases and after hiking phase 2. The entire study last for 24 weeks, allowing nine weeks for each hiking phase. During phase 1, group 1 took part in a 9-week hiking program while group 2 received no intervention. During phase 2, group 2 took part in a 9-week hiking program while group 1 received no intervention. Prior to the start of the study, all participants had indicated at least one attempt of suicide. Throughout the study, participants continued their usual psychotherapy. It was found that there was a significant reduction in hopelessness, depression, and suicide ideation during the hiking phase. At the end of the hiking phase, participants reported an increase in a sense of belonging and physical endurance. During

the control phase, there was no change found except a significant increase in depression, reported by participants (Strum, et. Al., 2012).

The results of this study help to show us that hiking can help to reduce feelings of hopelessness in high risk suicide patients. All of the participants reported significantly decreased feelings of hopelessness during the hiking phase and felt a sense of belonging (Strum, et. Al., 2012). It is important that high risk suicide patients explore something that gives them joy. Through hiking, these people can find something that they care about and put a lot of their energy towards it, allowing almost no energy for negative thoughts. In addition, hiking is a way to bond with other people, as shown by the sense of belonging that patients reported in this study. People are less likely to feel hopeless if they have a strong support system. Hiking will allow patients to create a strong support system for themselves, therefore, creating a more positive environment around them (Strum, et. Al., 2012). Overall, hiking can be used as a way to decrease feelings of helplessness and depression in high-risk suicide patients.

### **Mental Health**

There was a study conducted in Norway that investigated the effectiveness of a wilderness therapy program (Gabrielsen, et. Al, 2019). There were 32 participants that ranged between 16 and 18 years old. There were multiple tests that these participants completed immediately before and after treatment and then again 12 months post-treatment. It was discovered that 12 months after wilderness treatment, 23 of the 32 participants no longer received any form of mental health treatment. Participants stated that this wilderness therapy actually helped to improve their motivation. They now felt that they had a reason to get out of bed. Participants also indicated that hiking showed them that they are able to change certain things, that the world was not against them. If they want to accomplish something, they are able

to make that happen by changing certain things in their lives (Gabrielsen, et. Al, 2019). Overall, the wilderness therapy that the adolescents had experienced gave them motivation to change and improve their mental health.

### **Research**

Recently, I was fortunate enough to travel with a group from Southern New Hampshire University for the class GEO-202 Region Geography: Appalachia. The class is focused around all aspects of the Appalachia Region including its geography, social culture, economic standing, its literature, and the history that is derived from this area. Two professors, eight students and I traveled all over the east coast to gain knowledge on these topics. We visited multiple states including, Georgia, Tennessee, Virginia, West Virginia, Maryland, and Pennsylvania. While we traveled through all of these states, we stopped at historical, cultural, and natural sites. We did a lot of hiking during this trip, and I interviewed my classmates and professor about their thoughts of the benefits of hiking. I asked them a set questions at the beginning of the trip and again once we returned home from the trip.

### **Pre-trip Interviews**

In the first round of interviews, the first question I asked my classmates was “Does hiking improve your state of mind? If yes, please describe.” All students answered yes, stating that hiking does improve a person’s state of mind. They argued that fresh air in nature freshens and opens up one’s mind. This allows a person to take everything in and not worry about their problems in that moment. Students also addressed the fact that today’s society is technology focused and hiking allows for a break from that. It gives a person a chance to relax and get away from the constant rush of society and technology, allowing them to have a clear mind and think. One student stated that hiking improved her state of mind because “It’s a challenge which I like.



It makes me feel good when I achieve that challenge. Even though at some parts of the hike I think I am not going to make it, I feel so much better once I have actually gotten to the top.”

The next question that was asked prior to the trip was “Do you hike outside of this class? If no, will you start hiking after this class?” The students that answered stating they did not hike outside of this class confirmed that they would like to start hiking after the trip. They stated that they want to be able to challenge themselves more. In addition, they loved that freeing feeling they get when they get out of the car and just start walking in the woods. The final question that I asked students at the beginning of the trip was to add any additional thoughts that they had about the benefits of hiking. One student stated that there are so many things in the woods that a person would not see if they had never gone and explored. Hiking allows one to educate themselves while exercising, opening up their mind. Two students talked about the impact that hiking has on a person's mental health. They talked about how stressed they were the week prior because it was midterms week and now being able to come on the trip is refreshing because they can let their minds wander while hiking and do not need to stress about anything at home. They felt that while hiking, they don't think about anything and do not worry about any of the stuff that they will have to do when they get home, they are simply living in the moment.

### **Post-trip questions**

Students participating in GEO 202 were asked the same set of questions once we returned home from the trip. The first question asked, “Does hiking improve your state of mind? If yes, please describe,” showed an even greater sense of excitement than prior to the trip. Students reported that hiking has a calming effect on their mind. They felt that it is a relaxing experience that allows them to escape from the digital time that is required from work and school. One student answered,

Field-based hiking trip does improve my state of mind because it allows me to think about my life in a more constructive way. I also enjoyed being able to hike with other individuals and getting to know them or listening to other people's stories provided me with a better understanding of a variety of topics. I think a hiking trip can be useful for students who want to not only build their resume but to also build lasting friendships, confidence, and cultural understanding. Hiking provides a safe environment outside of the typical classroom to learn about real world situations.

Hiking allows one to clear their mind of all the daily stressors and lets the mind wander. This wandering mind can open them up to new ideas which they may not have previously been able to think about. By talking with other people on a hike, they are now much more open to listening to their stories and learning from them. This gives a person the opportunity to have better knowledge on more topics and become more cultured.

The second question that students were asked once returning home from the trip was “Do you hike outside of this class? Will you continue to hike after this class?” Most students do hike outside of class and stated that they will continue to do so after the class. They want to continue to hike for multiple reasons, that are all connected back to their mental health. Most students stated that they will continue to hike because it helps them to feel more grounded and allows them to reflect on their life and focus on what's truly important. Other students stated that it calms them and allows for them to have a get away from their daily stressors. All students discussed how hiking will help them to stay in shape both physically and mentally. They felt it was a physical activity that allowed them to work out their brain at the same time as their body.

I concluded my interviews by asking students to give me any additional thoughts about the benefits of hiking now that we are home and have been hiking for a week. Many students

stated that hiking provides an environment that is free from the pressures of social media and other technologies. Social media has a negative effect on many young people's mental health and being able to hike gives them an escape from that and allows them to bring themselves back to reality. When hiking, the only thing that matters is the person and the environment that they are surrounded by. It forces a person to understand themselves, life, and others. One student stated that hiking gives them the chance to better understand not only themselves, but the relationships they are a part of. They are able to take a step back and look at it from a bigger picture. One student talked about how she recently has convinced her boyfriend to go on hikes with her. She states that this has been a big step in their relationship because they are now having real conversations that were not able to be had before because of technology and social media. They have grown even closer since starting to hike together because they have been in an environment where it is just the two of them and nature. Immersing one's self in nature allows for a plethora of explorations whether is within one's self, their relationships, or even discoveries of nature.

These interviews support my thesis because students share how hiking has helped to improve their state of mind. The students provided me with examples, such as being stressed out the week before due to midterms, and now they are able to relax their minds while they hike. The students state that they noticed improvements within themselves after just one week of hiking. This leads to the conclusion that if a person continuously hikes, they are going to see a consistent improvement in their state of mind. The students found that nature was therapeutic during the trip, and even though it was a class, they did not feel any internal or external stressors, proving that hiking acts as a natural therapy.

### **Conclusion**

Hiking is such a common activity, but the therapeutic benefits of it are rarely discussed in society. With my personal experience, I have been able to discover what benefits the outdoors gives people. The simplicity of being outside allows our minds to relax and escape the demands of society. Our jobs, school, relationships, family, and many other aspects of life are constantly pulling us in multiple different directions, making it difficult for a lot of people to stay sane. Escaping to the woods, for either a small hike or a big backpacking trips brings us back to reality and back to our selves.

Hiking is something that is accessible to all of us, and for the most part, it is free. The research that has been conducted on this topic shows that it helps us in all different aspects of life. It improves mental health, cognitive process, social skills, and the general outlook on life. Not only does research show us the benefit that hiking has on bodies and minds, people have also been willing to share stories of how hiking and nature have helped them. Tracy Ross endured very traumatic experiences during her childhood, but she shares how she was able to overcome these experiences and move on through hiking and the wilderness. While hiking is beneficial, it also can be very dangerous. It is important that a person is physically prepared in addition to having the correct equipment. In order to get the mentally get the most out of a hike, one needs to practice mindfulness while hiking.

Interviews with students from SNHU showed an improvement in their mental health and their perspective of other parts of their life after just one week of hiking. They shared that it was therapeutic to be able to hike for a week, worry-free. The experience of these students is not different from others who hike. It is therapeutic to walk through the woods, remove one's self from society and be present. Therapist's office can be intimidating and uncomfortable. Someone

may be struggling with something that they are not able to put into words. Hiking allows silence and forces one to be in the present moment. A person grows while they are forcing themselves to try new things and pushing themselves to a new limit. This provides the self-confidence that leads to an improvement of the mental state.

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