Research Proposal

Wilderness Therapy Benefits and their Effects when Replicated in Urban Settings

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Abstract

Several decades ago wilderness therapy developed as a contemporary form of therapy. Wilderness therapy has shown evidence to be an advantageous healing approach to individuals afflicted by mood disorders, substance abuse disorders, behavioral disorders and anxiety disorders (Russell, 2001). This study will attempt to determine what are the elements of wilderness therapy that provide healing and therapeutic results and will attempt to replicate these elements of wilderness in urban settings to discover if the same therapeutic benefits obtained in rural wilderness settings can be obtained in replicated urban settings. Although people can find therapeutic and counseling benefits in both rural wilderness and urban city environments, I hypothesize that the benefits offered by rural wilderness environments will be substantially more therapeutic than from urban areas. The wilderness therapy industry is a relatively new field and has been predominantly funded by private, and non-profit generating companies; in the interest of the growing progression of the field, the need for a greater comprehension that the role wilderness plays in creating therapeutic outcomes will lead to the development of this unique form of therapy (Rutko & Gillespie, 2013). Methods: I will identify and analyze the wilderness aspects of 50 wilderness therapy specific programs within Colorado. There will be a subset sample of all the clients or patients in wilderness therapy groups within Colorado willing to participate in the replicated wilderness therapy in urban settings. Participants will engage in the replicated wilderness therapy activities and the resulting healing characteristics will be identified. Understanding nature and its role in facilitating healing and growth will lead to a greater appreciation of nature and the responsibility we as humans have to its preservation.

Introduction & Problem Statement

Since the dawn of the industrial revolution the human populace has catapulted, which created a need for people to flock to cities and more densely populated areas leaving rural areas only scarcely scattered with residents. This movement of humans from rural to urban environments has facilitated an overall disengagement and separation from the natural environment (St Leger, 2003, p. 173). Wilderness areas and natural settings are being destroyed in order to make room for the growing needs of cities. Several decades ago a contemporary form of therapy, wilderness therapy emerged and has shown evidence to be an advantageous healing approach to individuals afflicted by mood disorders, substance abuse disorders, behavioral disorders and anxiety disorders (Russell, 2001). The wilderness therapy industry is a relatively new field and has been predominantly funded by private, and non-profit generating companies; in the interest of the growing progression of the field, the need for a greater comprehension of the role wilderness plays in creating therapeutic outcomes will lead to the development of this unique form of therapy (Rutko & Gillespie, 2013, p. 230).

Before one can entirely understand the healing benefits of wilderness therapy, one must conceptualize the foundation upon which wilderness therapy is built and consist of. Wilderness is defined as "a tract of land or a region (as a forest or wide barren plain) uncultivated and uninhabited by human beings, an empty or pathless area or region" (Rutko & Gillespie, 2013, p. 220). Therapy can be described as any significant action, task procedure or program that relieves tension and physical or mental ailments. Traditional wilderness therapy consists of a staff that is trained and supervised by licensed mental health practitioners, is tailored to assist young adults and adolescents as

well as their families in mental health treatment, drug and alcohol treatment and other behavioral disorders, and usually takes place in wilderness settings (Russell, 2001). The next step in the development of the wilderness therapy industry is to discover if the serene and peaceful environment of the wilderness can provide therapeutic results if replicated in city and urban settings. Testing for the direct health benefits of nature has been problematic in the past due to the large variety of aspects of a natural environment and the variables in which they impact health in so many diverse individuals (Bowler et al., 2010, p. 463) The need to identify what aspects of nature and wilderness qualify as advantageous to health is important to the prosperity of the wilderness therapy industry. Although it is also important to notice the synergistic qualities of all aspects of nature working together as a whole and their interaction with human beings also promote health rather than regulating each quality separately. This study aims to determine and pin-point what direct elements of wilderness therapy provide healing and therapeutic results and will attempt to replicate these elements of wilderness in urban settings to discover if the same therapeutic benefits obtained in rural wilderness settings can be obtained in replicated urban settings.

One in four adults experience mental health problems in a given year, which is approximately 61.5 million Americans (Duckworth, 2013). One in seventeen Americans (about 13.6 million) is currently living with a serious mental health illness, such as bipolar disorder, major depression, or schizophrenia. Treatment of mental health costs Americans $193.2 billion in lost earnings per year. The third most common reason for hospitalization in the United States for youths and adults 18-44 is mood disorders such as depression (Duckworth, 2013). An individual living with a mental health disorder is

likely to die twenty-five years prematurely from the mental condition. Suicide is the tenth leading cause of mortality in the United States and over 90% of individuals who commit suicide live with one or more mental disorders. With these staggering statistics, it is apparent that we must address the health problem of mental disorders when they first become recognized at a young age. Healthy coping mechanisms learned from wilderness therapy during adolescents and young adulthood while the frontal cortex is still developing will create long lasting benefits for combating mental disorders later on in life.

Humans are becoming trapped within the confines of the concrete jungle and "are more distanced from the natural world than ever before" (Selhub & Logan, 2012, p. 2). This detachment from nature should generate some concern regarding the future of human health on the grounds that natural environments offer incredible health advantages (Selhub & Logan, 2012, p. 2). Nature provides sustainable components that support and promote overall health and well-being, where as the course of the current health care system has demonstrated to treat mainly the acute symptoms as they are presented in diseases instead of the comprehensive health of the individual (St Leger, 2003, p. 173). Our relationships with nature are a fundamental component of building and sustaining good health and physical, mental and spiritual health are strengthened when we engage with nature. The current tendency of modern society has shown that the human mind is becoming disconnected from its creation with nature (Selhub & Logan, 2012, p. 22). However, it is a result of the interaction with nature and through a connection with the earth that we will heal the human body and mind as well as the planet. If we protect nature we also protect the health and longevity of the human body, but if we destroy

nature beyond repair we will also destroy ourselves. Understanding nature and its role in facilitating healing and growth will lead to a greater appreciation of nature and the responsibility we as humans have to its preservation (Rutko & Gillespie, 2013, p. 230).

What are the qualities of wilderness and nature within wilderness therapy that provide therapeutic and healing characteristics to the affected wilderness therapy client? Can these certain qualities of wilderness be replicated in an urban setting to provide the same therapeutic benefits as in rural settings? Although people can find therapeutic and counseling benefits in both rural wilderness and urban city environments, I hypothesize that the benefits offered by rural wilderness environments will be substantially more therapeutic than from urban areas.

Literature Review

With the consistently increasing flux in the human populace and its correlation between the disengagement with natural and wilderness environments the need to explain how nature plays a role in greater physical and psychological health is very substantial. A greater understanding of the function that certain wilderness characteristics promote healing and overall wellbeing will lead to the continued development of the therapy. This understanding that individuals will benefit form creating a relationship with natural environments will ultimately lead to the greater appreciation of this healing therapy as well as the need for the preservation of nature.

The topic of wilderness therapy and its beneficial effects to mental and physical health is increasing in popularity and has been looked at by several prominent people in the industry over time. Understanding whether wilderness environments verses developed environments has a significant correlation to improved physical and psychological health

can help us too make room for the importance of natural spaces within developed environments and will provide outlets for new directions in the research of wilderness therapy. To put some context to this problem I would like to review the research that has been done in this area.

The research done by Berman, Jonides, & Kaplan test the attention-restorative theory (ART) as it relates to directed attention that involves mental effort (2008). ART suggests that through the interactions with natural environments one will have improvements on cognitive focus and concentration. The authors of the study had participants perform two tests; the first was a fifty-minute walk in a park and the second test was preformed a week later and participants took another fifty-minute walk but in a downtown urban area. Before and after each test the participants filled out a Positive and Negative Affect Schedule (PANAS) to assess their mood and they also performed a backwards digit-span task to assess cognitive function. The variables in Berman et al., study included the participants' mood and how it was assessed according to the PANAS 1-5 scale as well as the participants' improvements in cognitive function determined by the backwards digit-span task (2008, p. 1208). Both the participants' mood and improvements in cognitive function were dependent upon the fifty-minute walks in complementary park, and urban downtown locations.

The results examined by the backwards digit-span task confirmed that interactions with nature improved directed-attention abilities, thus displaying improved cognitive performance within the participants (Berman et al., 2008). This study demonstrated that simple and brief interactions in nature improved cognitive performance, functioning and concentration. The restorative value of nature and its correlation with cognitive function

is demonstrated within this experiment conducted by Berman et al. Now I will examine the benefits of nature on mental and physical health as explained by Jules Pretty.

Pretty's analysis of how nature contributes to mental and physical health is an explanatory research study (2004). The research identifies the importance nature plays in the positive affects on mental health and identifies the problem our current society is afflicted with when considering the lack of priority natural environments involve during the planning for urban environments and public health priorities. Research by Pretty supports that nature makes positive contributions to our health, as it helps recovery from pre existing stresses or health disorders, has a stimulating immune effect, and helps bring better concentration and focus (2004, p. 69). According to Pretty there are three levels of engagement with nature: viewing nature, being in the presence of usually nearby nature, and active participation and involvement with nature (2004, p. 69).

The first engagement with nature; viewing nature as through a window, book, or painting showed a link in the decrease of illness in hospital patients who had either a window in their room or a picture of nature in their room (Pretty, 2004, p. 70). The second level of engagement with nature; being in the presence of nature as in talking to a friend in a park or reading a book in a garden showed a positive effect on the cognitive functioning of children and their capacity to think. The last level of engagement with nature: direct participation as in gardening, hiking, or mountaineering has a positive effect on emotional wellbeing and self-esteem (Pretty, 2004, p. 75). Stress and mental health disorders are becoming a frequently occurring disorder in our current society and the costs to treat these disorders are also high. The WHO (2014) expresses that mental health disorders and depression are the leading cause of illness in adolescents and

estimates that mental health related illness will be the greatest source of ill health in all age groups by 2020. The need for our society to not only discover but also to value the importance of wilderness spaces will be a definitive factor in the improvement of mental health.

According to Tucker, Norton, DeMille, and Hobson, seventeen percent (almost one in every five) of adolescents suffer from one or more mental health disorders (2015). People with mental health problems are shown to die earlier than the average person mainly because they are afflicted with other, more severe preventable chronic disease like diabetes, hypertension, obesity and heart disease. The research presented by Tucker, et al. demonstrates that wilderness therapy has a positive impact on not only mental health functioning but also physical health, weight improvements, and changes in a more positive body mass index. Over 500 adolescents were included in the study and their data was gathered from a wilderness therapy program licensed by the Utah Department of Licensing (Tucker, et al., 2015). Participants were immersed in a wilderness-living setting, diet and nutritional standards, engagement with a psychologist, and physical activity including backpacking and hiking. Variables included general physical health (height, wright and body fat percentages) and body composition as measured by the BIM and bioelectrical impedance analysis, mental and emotional health as assessed by the Youth-Outcome Questionnaire Self Report Version 2.0 (Y-OQ SR 2.0) and the engagement in wilderness therapy exercises.

Participants in this study moved to a more healthy weight and BMI, and in addition to physical health improvements, participation in wilderness therapy demonstrated significant improvements in mental health functioning (Tucker, et al., 2015,

p. 11). This research presents the need to implement integrative care approaches that provide treatments for adolescents promoting both physical and mental wellbeing. These interventions will lead to improvements in the long-term health of adults with regards to more chronic illnesses. The next goal is to identify how wilderness therapy can positively impact family functioning post wilderness exposure.

The research presented by Harper, Russell, Cooley, & Cupples, identifies practical adolescent and family outcomes following the participation of wilderness therapy (2007). Participants of the study were involved in the three-week Catherine Freer Wilderness Therapy Expeditions because of is emphasis in family involvement during treatment and during follow-up practices. 252 adolescents and their families enrolled in the study. After the three-week (21 day) wilderness therapy expedition participants were given a thirty minutes, sixty-question survey at two-months and twelve-months post treatment. The questionnaire examined an array of family and adolescent specific issues, or variables, impacted by the twenty-one day wilderness therapy expedition. These variables included family function, the adolescents behavior, the adolescents overall mental health activity, the success in school activities, and the individuals engagement in acceptable social activities (Harper, et al., 2007, p. 118).

The most prominent improvements in adolescent behavioral issues were seen in the overall mental health functioning and school performance of the individual (Harper, et al., 2007, p. 123). The data also shows that wilderness therapy intervention significantly contribute to a positive and lasting change on family and adolescent specific problems. However, the majority of survey reports concluded that family and adolescents problems were substantially less during the two-month post wilderness therapy treatment,

but only 78% of the assessments were again less than before the wilderness treatment (Harper, et al., 2007, p. 124). This research displays the need for post wilderness therapy cooperatives to be initiated in order to maintain continued growth and impact from the initial wilderness therapy treatment. These post wilderness initiatives will impact the sustained mental health and wellbeing of the affected individual as well as the overall health of entire families.

Previous studies have demonstrated that wilderness therapy is effective at improving mental health disorders, substance abuse disorders as well as physical health but limited research has been done to show what specific factors impact client progress and symptom reduction on positive mental health and substance abuse outcomes. The research done by Bettmann, Russell, & Parry examine if specific factors such as the clients readiness to change as well a the wilderness therapy program's ability to implement abstinence-focused coping strategies as part of treatment paly a role in the overall success rate of wilderness therapy (2013). 858 participants were enrolled in an eight-week long wilderness therapy intervention and upon exit of the program adolescents filled out a Youth Outcome Questionnaire to assess positive outcomes of the treatment. The independent variables collected were the clients' motivation and readiness to change assessed by the University of Rhode Island Change Assessment Scale, and the relapse coping skills taught by the wilderness therapy program as assessed by the Adolescent Relapse Coping Questionnaire (Bettmann, et al., 2013, p. 1042).

This study presented evidence that the clients' wiliness to change is not a determinant factor of the effectiveness of wilderness therapy (Bettmann, et al., 2013, p. 1046). Individuals can make changes after the start of a wilderness therapy initiative even

if they are resistant to the treatment. Abstinence-focused coping strategies; however, are a huge factor to the clients' improvements following a wilderness therapy treatment (Bettmann, et al., 2013, p. 1047). Adolescents who develop strong abstinence-focused coping mechanisms during and following wilderness therapy treatment are more likely to maintain sobriety.

Several people have looked at the impact of natural environment and wilderness therapy treatment and its correlation to improvements on mental health, improved cognitive performance, cognitive functioning, concentration, recovery from pre existing stresses and health disorders, physical health, weight loss, and changes in a more positive body mass index. The above articles have already shown that engagement with nature and participation in wilderness therapy has a positive impact on various aspects of health. Studies done by prominent researchers in the wilderness therapy industry have proved to show that nature and wilderness are an important component of a healthier psychological state, but the specific topic of therapeutic benefits obtained from rural environments verses urban environments has yet to be discussed. My research will be examining what direct elements of wilderness are associated with healing and therapeutic qualities in an effort to replicate these findings in urban, city environments. The questions presented in this study are: what specific aspects of natural and wilderness environments provide therapeutic benefits, and will these aspects provide similar therapeutic benefits if practiced in developed, man-made, urban environments opposed to wilderness, natural, rural environments. My research will provide opportunities for post wilderness therapy cooperatives located in more convenient urban environments that will impact the lasting affect of wilderness therapy treatment on mental health and family functioning problems.

If families and adolescents have a more convenient and better access to the benefits of nature presented in urban environments than the lasting effects of wilderness therapy will present opportunities for the future prosperity of the field as well as the overall positive impact of mental health. The outcome of the replicated wilderness therapy in urban environments will aim to identify the role that nature plays as a benefit to therapeutic practices and these results will lead to the importance of the preservation of natural spaces.

Methods

In order to find the population of available wilderness therapy organizations within the United States secondary analysis will be used to identify the possible locations. Next, secondary analysis will determine the sample size for this study, identifying twenty different wilderness therapy organizations within the states of Colorado and Utah. Due to the nature of my study I am using cluster sampling that will be classified as non-probability sampling because the outcome of the study relies entirely on the participants willingness to engage in wilderness therapy replicated in a non-wilderness, urban setting. This study will be experimental due to the fact there are no other studies like it within the research of wilderness therapy.

An Internal Review Board (IRB) consideration will be used to ask specific wilderness therapy organizations for client data and the diagnostic data will be examined to identify clients who were admitted between November 2012 and October 2015. Discharge summarizes will be used due to their accurate diagnosis information and participants who are adolescent (ages 13-17) or young adult (ages 18 – 25), and who have been diagnosed with mood, anxiety, behavioral and/or substance abuse disorders

classified by the *Diagnostic And Statistical Manual, 5* will be selected for participation. Systematic random sampling for each cluster will be used to determine which one out of every three clients will be called to inquire about participation. Secondary analysis and diagnostic data design used will be similar to the design Hoag, Massey, & Roberts's used from their study on *Dissecting the Wilderness Therapy Client* (2014, p. 384). Discharge summaries of eight hundred former wilderness therapy clients will need to be interviewed for this study during the initial call of inquiry in order to collect a sufficient sample size. It is estimated that this study will have a response rate of 450 participants. This study is a longitudinal sequential case cohort because the clients have already been through traditional wilderness therapy in rural setting and are now going to go through a replicated urban wilderness therapy to see if both are providing results.

This study design has a two-part experimentation process. The first, will be an over the phone interview regarding specific question about demographics, qualifications to entry of the study, aspects of previous wilderness therapy that the client found most beneficial, whether the client would like to participate in this wilderness therapy study, and the nature of the study. This first process will take time and I will utilize the help of college interns to call possible participants, administer interview questions and record data. After all eight hundred clients have been contacted and the interview administered, results will be compiled in a large overall statement of all patients. Results are produced by the willingness of clients responding to the initial interview. Through the initial results of part one the exact sampling size of part two will be identified and ten specific wilderness activities will be chosen using cluster sampling to be replicated in urban city settings in order to conduct part two of the study.

Participants enrolling in the second part of this study will be required to fill out a Profile of Subject Questionnaire (designed specifically for this study), an informed consent form and the Par-Q General Health Questionnaire (Pretty, Peacock, Sellens, & Griffin, 2005, p. 322). The second part of this study will replicate ten specific beneficial wilderness therapy activities in urban, city environments. Examples of these replicated activities could include a walking counseling session taken place in a park, working in community gardens to bring connection and grounding with the earth, and group activities used to build self-esteem and self-confidence. Participants will engage in the replicated wilderness therapy activities three days a week, for an hour and a half each session and for a duration of two months. The resulting healing characteristics from the replicated treatment in urban setting will be identified through the assessment of psychological states by the survey instruments of the Rosenberg Self-Esteem Scale (RSE), and the Profile of Mood States (POMS) (Pretty, et al, 2005, p. 323). Additionally, measures from the OQ family of instruments will be used to effectively analysis the differing results characteristic to adolescent patients (ages 13-17) compared to adult patients (ages 19-25). The OQ®-30.2 survey will be used for adults and the Y-OQ® Self Repot SR 2.0 will be administered to adolescents. The OQ family of instruments surveys including the OQ®-30.2 and the Y-OQ® Self Report (SR) 2.0 has consistently demonstrated strong reliability and validity in a variety of clinical mental health treatment settings (Tucker, Smith, & Gass, 2014). The RSE is the most widely used and popular self-esteem measure and the participant's self-esteem will be measured using pre- and post-activity using the one-page 10-item RSE scale (Barton & Pretty, 2010). The POMS is the primary instrument used for measuring mood states in mental health disorders

(Barton & Pretty, 2010). POMS measurements will be taken pre- and post-activity to quantify changes in mood. The results of the surveys' will be compared with the benefits of replicated wilderness therapy in urban settings to traditional wilderness therapy in rural settings. A two-month follow up will be conducted and participants will resubmit surveys' from the OQ family of instruments regarding the lasting effects of replicated urban wilderness therapy verses traditional wilderness therapy. Participants of past wilderness therapy who are taking part in the initial over the phone interview will not be paid, but participant enrolling in the second part of the study, engaging in replicated wilderness therapy, will be paid.

Impact

Understanding whether wilderness environments verses developed environments has a significant correlation to improved physical and psychological health can help us too make room for the importance of natural spaces within developed environments and will provide outlets for new directions in the research of wilderness therapy. The impact of this study will create an understanding that individuals will benefit form creating a relationship with natural environments. This relationship will ultimately lead to the greater appreciation of this healing therapy as well as the need for and the importance of the preservation of nature. The implementation of integrative care approaches during adolescents will lead to improvements in the long-term health of adults with regards to mental health disorders and chronic illnesses. Overall this research will provide opportunities for post wilderness therapy cooperatives located in more convenient urban environments that will impact the lasting affect of wilderness therapy treatment on mental health and family functioning problems. If families and adolescents have a more

convenient and better access to the benefits of nature presented in urban environments then the lasting effects of wilderness therapy will present opportunities for the future prosperity of the field as well as the overall positive impact of mental health.

Example of Survey Questions to be implemented by Interviewers in Part One

1. What is your age?
    - 12-17 years old
    - 18-24 years old
    - 25-34 years old
    - 35-44 years old
    - 45-and older
2. What is your gender?
    - Male
    - Female
    - Wish not to disclose
3. What is your race?
    - Caucasian
    - American Indian or Alaskan Native
    - Asian
    - Black or African American
    - Native Hawaiian or Pacific Islander
    - Hispanic of Latino
    - Other

4. What age were you when you previously enrolled in wilderness therapy treatment?
5. What did you use wilderness therapy for?
    - Substance abuse disorder
    - Mental illness (please list what disorder)
    - Behavioral disorders
    - Family troubles
6. Where do you currently live?
7. How far do you live from access to a wilderness environment?
    - 0-10 miles
    - 11-25 miles
    - 26-50 miles
    - 51-75 miles
    - 76-100 miles
    - Over 100 miles
8. Are their any limitations that would prevent you from doing a wilderness therapy expedition?
    - If so what are these limitations?
9. What is your access to means of transportation?
10. How often do you visit local parks and outdoor recreation areas?
    - 30-90 minutes per week
    - 1½ - 3 hours per week
    - 3-6 hours per week

- 6-9 hours per week
- 9 hours or more per week

11. How realistic would it be for you to incorporate a wilderness excursion into your weekend?
12. What aspects of your previous wilderness therapy treatment did you find most beneficial?
13. If you could find some of these beneficial characteristics close to your home in the city would you incorporate them into your day-to-day life?
14. Have you continued doing wilderness therapy since your completion of your previous wilderness therapy treatment?
    - If so… How often?
    - If not… Why not?
15. How would wilderness and natural spaces help you being a member and resident of an urban, city environment?
16. Would you be interested in participating in a wilderness therapy study that takes healing benefits of wilderness therapy and replicates them in urban city settings?

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