

Understanding the Impact of Wilderness Therapy on Adolescent Depression and Psychosocial Development

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Statement of the Research Problem

Adolescent depression has become epidemic in the United States, with statistics showing that one in five may suffer from depression (Brent & Birmaher, 2002). According to the World Health Organization, depression is the second leading cause of disability for people ages 15-44 (World Health Organization, 2009). Despite the prevalence of adolescent depression, there is an acknowledged shortage of treatment options and providers in the field of child and adolescent mental health (Koplewicz, 2002).

The reality of this treatment gap for adolescents can be devastating. The consequences of untreated depression can lead to serious problems later in life, or in some cases, suicide. For adolescents who have depressive illnesses, the rates of suicidal thinking and behavior are alarmingly high. Recent statistics revealed that approximately three million youth, aged 12 to 17, either thought seriously about suicide or attempted suicide in 2000, and the actual suicide rate for all adolescents has increased more than 200% over the last decade (Borowsky et al, 2001). Many teens who commit suicide suffer from undiagnosed or untreated clinical depression, and have experienced serious difficulties in school, work and personal relationships (Weersing et al, 2008). Because of these alarming statistics, adolescent depression has finally been recognized as a legitimate mood disorder that affects the functioning of millions of adolescents (Koplewicz, 2002).

Most agree, however, that the majority of adolescent depression can be treated; yet there is debate about the type of therapeutic intervention that can target adolescent depression most effectively. Integration of theory is needed in contemporary social work treatment of adolescent depression. As Allen-Meares (1987) said: "Social workers need to expand their knowledge about risk factors and unique characteristics associated with depression in this population to refine the different schools of thought and to design prevention and treatment interventions" (p. 515). Through the person-in-environment construct, social work may offer an important approach in the assessment and treatment of adolescent depression. This psychosocial approach takes into consideration multiple systems and domains of development. By viewing adolescent depression in the context of

psychosocial development, one may arrive at a theory base and treatment modality that addresses the biopsychosocial factors that give rise to adolescent depression.

Wilderness therapy is considered to be this type of intervention, referred to by Amesberger (1998) as a structured holistic model of treatment that addresses multiple factors of human development and pathology. While people have long been aware of the increase in general well-being that being outdoors can have on a person (Miles, 1987), the field of wilderness therapy seeks to harness the power of the outdoors in combination with structured clinical interventions in a way that promotes psychological healing and personal growth. Although wilderness therapy has been recognized as a powerful intervention that promotes cognitive, affective and behavioral change (Gillis, 1992), leaders in the field of wilderness therapy admit that more research is needed to understand the impact of wilderness therapy on specific emotional and psychological issues (Berman & Davis-Berman, 1994; Russell, 1999).

Research Background and Hypothesis

Though few studies have been done in regards to the effectiveness of wilderness therapy in dealing with adolescent depression, several outcome studies have been done on the efficacy of wilderness therapy and mood disorders. Russell's (2002) longitudinal study found that 22.4% of adolescents participating in wilderness therapy programs were diagnosed with mood disorders. While his study did not solely address the effectiveness of wilderness therapy on mood disorders, his findings did report clinically significant improvement in clients' depressive symptoms. This was based on clients' self-reports and parent feedback. Client levels of functioning were found to be similar to a non-clinical adolescent population (Russell, 2002).

Continuing his research on mood disorders and wilderness therapy, Russell (2003) conducted research in which he looked at pre- and post-test outcomes of wilderness therapy participants' scores on the Youth Outcome Questionnaire (Y-OQ). In this study, participants with mood disorders scored the highest (78.59) on the initial Y-OQ, and lowest on the post-test (45.99) at discharge. This may be evidence that wilderness therapy is most effective at treating mood disorders; however, conclusive theory in this area cannot fully be derived from this study alone.

Nortrom's (2004) study on the efficacy of wilderness therapy on adolescent depression found that 70% of adolescent clients in her study reported decreased depressive symptomology after treatment. Utilizing the Reynold's Adolescent Depression Scale-2, Nortrom found that the combined data from her total sample did not show statistically significant results in the use of wilderness therapy to help lower depressive symptoms; however, "significant results were discovered once moderate to severely depressed clients were identified and separately analyzed" (p. 85).

No studies were found, however, looking at the impact of wilderness therapy on adolescent depression and psychosocial development. Therefore this study supplemented these prior studies by seeking to understand the impact of wilderness therapy on adolescent depression and psychosocial development via two main hypotheses:

- a. Did the wilderness therapy intervention decrease depression based on the Reynolds Adolescent Depression Scale-2 (RADS-2) pre- and post-scores and qualitative data?
- b. Did the wilderness therapy intervention improve psychosocial development based on the Measures of Psychosocial Development (MPD) pre- and post- scores and qualitative data?

Minor hypotheses tested the relationship between depression and psychosocial development, as well as the impact achieved on the emergent dependent variables of family conflict, substance abuse, and school problems. The study utilized a three month follow up time frame to understand a longer term impact of the wilderness therapy intervention on adolescent depression and psychosocial development.

While most of the prior studies analyzing mood disorders focused on the outcomes related to wilderness therapy in general, very few studies have looked at individual components of the intervention to really understand what aspects specifically benefit depressed adolescents. Russell and Phillips-Miller's (2002) study was one of the few that did try and break down the various components of wilderness therapy, and actually reported that solo, a common aspect of all wilderness therapy programs, in which participants have a lot of alone time to reflect on their lives, was not always helpful to depressed adolescent clients; however, Nortrom's (2004) research gathered from case study participants' narrative data, found that time spent alone in the wilderness was one of the components of the wilderness therapy program that made the largest impact on depressed adolescents.

There is no way of specifically accounting for the difference in these research findings, except to clarify that Nortrom found that time alone has an "impact" on students with depression; whether or not that impact had a lasting positive effect may need further study. Because of the ambiguity around the process of wilderness therapy, this study also looked at the various components of the wilderness therapy intervention and their effect on adolescent depression and psychosocial development specifically.

Methodology

The sample for this study consisted of adolescent participants in Outward Bound's youth-at-risk program, a 28-day wilderness canoeing and camping program called Intercept (N=21). By using a mixed methods research design, this study collected data via pre- and post-tests using the RADS-2 and the MPD. These measurements were administered one week prior to the wilderness program and one week following the program. Quantitative data was analyzed by generating descriptive statistics and running statistical analyses, utilizing the SAS program. This researcher tested for relationships and statistical significance among various aspects of the data while controlling for

potential confounding variables that may have called into question the sole attribution of any change to the wilderness therapy intervention.

Qualitative data was also collected via pre-course paperwork and three month, post-course phone interviews. Qualitative data was subjected to multiple levels of coding and narrative analysis. Additionally, this study included survey research to assess the importance of various components of the wilderness therapy intervention. The results of this survey were correlated with the outcomes on the pre- and post-tests to understand which had the greatest impact on adolescent depression and psychosocial development.

Overall, this study demonstrated that wilderness therapy helped to decrease rates and prevalence of depression and helped to increase rates and prevalence of psychosocial development. This study showed an average improvement of -4.3 points on the RADS-2, which, based on other RADS-2 pre to post studies, is seen as a clinically meaningful level of change (Reynolds, 2002). Likewise, there was an average improvement of 6.1 points on the MPD, which reflected a large shift from low levels of psychosocial development to normal levels (Hawley, 2005). These changes were statistically significant at the 0.0006 level (RADS-2) and at the <.0001 level (MPD).

Utilizing a Repeated Measures ANOVA to control for moderating variables, further statistical analysis revealed that the change in the rates of depression and psychosocial health were significant at the 0.022 level (RADS-2) and at the 0.0009 level (MPD). Utilizing a Categorical Repeated Measures ANOVA, this study showed a 33.5% decrease in the prevalence of depression, significant at the .0012 level, and a 52% increase in the prevalence of positive psychosocial development, significant at the <.0001 level. This study also demonstrated a negative correlational relationship between adolescent depression and psychosocial development significant at the 0.0023 level, paving the way for consideration of the efficacy of psychosocial interventions such as wilderness therapy in the treatment of adolescent depression.

The qualitative data analysis triangulated these findings, reaffirming that participants experienced decreases in depression and increases in psychosocial health, immediately following the intervention, as well as three months after. Likewise, based on data gathered from qualitative sources before and after the intervention, the study showed a 47.5% decrease in family conflict, significant at the <.0001 level; a 28.6% decrease in substance abuse significant at the <.0001 level; and a 61.9% decrease in school problems significant at the <.0001 level. These emergent dependent variables are important to consider because they reflect concrete behavioral change.

Lastly, regression analysis of the survey of course components revealed the importance of a positive group experience on psychosocial health, significant at the 0.012 level, as well as the role that positive communication with family members played in decreasing depression, which was nearly statistically significant at the 0.08 level. Both of these components reaffirmed the literature in this area. The qualitative data related to treatment-relevant components of wilderness therapy revealed that participants identified being in nature, challenge and adventure, and contemplation as other important aspects of the change process.

Utility for Social Work Practice

As mentioned earlier, if left untreated, adolescent depression can lead to adult depression and is often accompanied by other psychological disorders, or worse, can end in death (Brent & Birmaher, 2002). For these reasons, clinical research needs to be conducted on effective treatments for adolescent depression. Though clinical experience and research have shown that wilderness therapy reflects social work values and is grounded in accepted clinical theories, its efficacy with depressed adolescents is debated. Some have even gone so far as to say there is no scientific evidence that supports use of these programs (Carpenter, 1996) and may actually harm teens, particularly sensitive teens with depression (Hait, 2002). On the other hand, others believe these programs to be very effective for at-risk youth, many of whom are diagnosed with depression (Berman & Davis-Berman, 1994; Nortrom, 2004).

Despite the controversy, wilderness therapy programs continue to sprout up all over the country, and depressed adolescents are often referred to these programs (Russell, 1999). Berman & Davis-Berman (1994) stated: "It is naïve to think that outdoor experiences will be effective in reaching every type of client. More sophisticated research needs to be done to examine which outdoor modality is most effective with particular types of clients" (p. 207).

This study carefully examines wilderness therapy as a possible intervention for adolescents with depression, and helped deconstruct the components of wilderness therapy so that social workers can have an accurate theoretical grounding for either accepting or rejecting this type of intervention. This research provides a compelling theoretical explanation of wilderness therapy, and makes an effective case for the positive impact that wilderness therapy can have on adolescent depression and psychosocial development. By building a knowledge base in social work practice about wilderness therapy, this study may begin to address the treatment gap in which adolescent mental health needs are not being met by providing new treatment options.

References

- Allen-Meares, P. (1987) Depression in Childhood and Adolescence. *Social Work*, 32(6): 512-517.
- Amesberger, G. (1998). Theoretical considerations of therapeutic concepts in adventure therapy. In C. Itin (Ed). (1998). *Exploring the boundaries of adventure therapy: International perspectives*. Boulder CO: Association for Experiential Education.
- Brent, D. A., & Birmaher, B. (2002). Adolescent depression: Clinical practice. *New England Journal of Medicine*, 347(9).
- Berman, D. S. and Davis-Berman, J. (1994). *Wilderness therapy: Foundations, theory and research*. Dubuque, IA: Kendall/Hunt Publishing.
- Borowsky, I. W., Ireland, M. & Resnick, M. (2001). Adolescent suicide attempts: Risks and protectors. *Pediatrics*, 107(3), 485-493.
- Carpenter, B. (1996, June 25). Taking nature's cure: Do expensive wilderness therapy camps help? *US News and World Report*, 54-58.
- Gillis, H.L. (1992) Therapeutic uses of adventure-challenge-outdoor-wilderness: Theory and research. Paper presented at the Coalition of Reeducation in the Outdoors Symposium Bradford Woods Indiana University, Martinsville, IN [on line]. Available: <http://fdsa.gcsu.edu:6060/igillis/AT>.
- Hawley, Gwen A. (2005). Measures of psychosocial development. Lutz, FL: Psychological Assessment Resources.
- Hait, M.D., Elizabeth (2002, May 24). Medline Editorial: Adolescent depression. Cleveland, OH: Department of Pediatrics, Rainbow Babies and Children's Hospital, Case Western Reserve University.
- Koplewicz, Harold. (2002). *More than moody*. New York: G.P. Putnam's Sons.
- Miles, John. (1987). Wilderness as a Healing Place. In *Journal of Experiential Education*, 10 (3), 4-10.
- Nortrom, Amy. (2004). The efficacy of wilderness therapy in the treatment of adolescent depression. Prescott College Master's Thesis: Prescott, AZ.
- Reynolds, William M. (2002). *Reynolds adolescent depression scale-2 professional manual*. FL: Psychological Assessment Resources, Inc.
- Russell, K.C. (1999) The theoretical basis, process, and reported outcomes of wilderness therapy as an intervention and treatment for problem behavior in adolescents. Unpublished doctoral dissertation. College of Natural Resources: Moscow, ID 83844-1144.

- Russell, K. C. (2002). A longitudinal assessment of treatment outcomes in outdoor behavioral healthcare. Technical Report 28, Idaho Forest, Wildlife, and Range Experiment Station, Moscow, ID. 35 pp. Available from the University of Idaho-Wilderness Research Center.
- Russell, K. C., & Phillips-Miller, D. (2002). Perspectives on the wilderness therapy process and its relation to outcome. *Child and Youth Care Forum*, 31(6), 415-437.
- Russell, K.C. (2003). Assessing treatment outcomes in outdoor behavioral healthcare using the Youth Outcome Questionnaire. *Child and Youth Care Forum*, 32(6), 355-381.
- Weersing, V. R., Rozenman, M., & Gonzalez, A. (2008). Core components of therapy in youth: Do we know what to disseminate? *Behavior Modification*, 33, 24-47.
- World Health Organization. (2009). Depression. Retrieved on February 19, 2009, from http://www.who.int/mental_health/management/depression/definition/en/