Wilderness Adventure Programming as an Intervention for Youthful Offenders: Self-Efficacy, Resilience, and Hope for the Future

A DISSERTATION
SUBMITTED TO THE FACULTY OF THE GRADUATE SCHOOL
OF THE UNIVERSITY OF MINNESOTA
BY

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IN PARTIAL FULFILLMENT OF THE REQUIREMENTS
FOR THE DEGREE OF
DOCTOR OF PHILOSOPHY

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August 2009

Acknowledgements

To all of the young people of Thistledew Programs, especially the individuals who participated in the study;

To the staff of Thistledew Programs, for their support and assistance;

To my advisor, mentor, and friend, Keith Russell, who always saw the best in me, was always there to support me, and shared my vision of hope for our young ones;

To the rest of my committee; Stephen Ross, Carol Leitschuh, and Grant Dewey, who were always there to help and support me;

To my colleagues and good friends; Tami, T, HK, Gen, Drew, and of course, Joe Pa, for their love and support;

To all of my instructors and support people at the University of Minnesota, whose love and support during my injury and recovery were priceless;

To my surgeon Polly Quiram, who always gave me hope;

To my good friend Kerry Lindorfer, for his unselfish assistance in the proofreading and editing of this manuscript;

To my mentors, Alice Lynch and Gwen Chandler-Rhivers, who taught me the ways of the talking circle, and heavily influenced my work with the young people at Thistledew Programs;

To my Tlingit brothers and sisters of the Yukon, especially Phil, Colleen and Harold, who are always in my heart, and whose teachings have transcended every dimension of my life;

To the county probation officers of Minnesota, for without their support and assistance, this manuscript would not be possible,

To Kelly Emmons of the Arrowhead Regional Corrections, whose support and contributions to the Wilderness Endeavors Program evaluation were invaluable;

To my family, who never complained when I only saw them on occasion, whose support of my work was unselfish, and whose love was always with me;

To my father, who is with me in spirit, and whose was always smiling at me as I worked tirelessly at my desk;

To my dog Josie, always at my side, and always forgave me when I was too busy to walk her;

To Mary Jo and Bert, for their love,

And finally, to Tracy, whose love, patience and compassion cannot be described in words and without her, my life and my work would be diminished.

Dedication

To our young ones.

Abstract

A review of the literature on positive youth development clearly identifies demonstrated empirical relationships between perceived self competence, adolescent resilience, and hope, which are theorized in a strengths-based focus on youth offenders to be predictors of reduced recidivism. This evaluation of outcomes associated with participation in the Wilderness Endeavors (WE) Program of Thistledew seeks to test this theory that individuals who participate in WE will develop enhanced levels of perceived self competence, resiliency, and hope for the future, and therefore, result in a reduction of recidivism.

The specific aims guiding this exploratory study include: 1) to establish a matched-pair control group using youth who were not referred to Thistledew, but which were referred from the same county court system to a Minnesota Department of Correction (MDOC) disposition or other programs, by using as matching variables age, age of first offense, type of committing offense, and risk assessments as determined by the Youth Level of Service Inventory (YSLI) used by the referring Youth Probation Officer (if possible given county court use of the YSLI from which a control group will be drawn); 2) to assess the baseline scores of the youth participant's on the following measures: a) Perceived-Self Competence (Self Efficacy), b) Hope, and c) Adolescent Resiliency; and to assess post-program scores on Perceived-Self Competence, Hope, and Adolescent Resiliency, and 3) to conduct a six-month follow-

up assessment that will assess both treatment and control youth re-offense rates, including the nature and degree of the re-offense.

The paired t tests revealed that self efficacy and hope scores showed significant changes from pretest to posttest, suggesting that the Wilderness Endeavors Program had a significant positive effect on participant's self-efficacy and hope for the future. The non parametric test (McNemar) utilized to investigate the four hypotheses related to Wilderness Endeavors Program participation on the future offending behaviors (recidivism) of participants revealed that there were no significant differences in recidivism rates, or new program placements, between the treatment and control groups. Furthermore, involvement in school and employment were not significantly associated with recidivism rates in both treatment and control groups.

The binary logistic regression showed that higher levels of hope were associated with those Wilderness Endeavors Program participants who did not recidivate, while changes in self-efficacy and resilience scores had no association with recidivism. Finally, the three demographic variables that are supported in the literature as being strong predictors of recidivism for juvenile offenders revealed only YLSI scores were associated with recidivism; those individuals who did not recidivate were more likely to have a lower risk score. Gender and age of first offense had weak or no associations with either group.

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CHAPTER 1 – INTRODUCTION

Adolescents of the 21st century face many demands and challenges, and healthy development can be compromised by many confounding variables, including high parental divorce rates, increasing rates of adolescent pregnancies, high rates of drug and alcohol use, exposure to violence, and lack of (or poor) supervision from adults (Hill, 2007). Because of this, much attention has been directed toward development concepts in adolescents, and there significance in programs that serve youthful offenders. Of the three developmental domains (cognitive, biological, and psychosocial), psychosocial development is of particular importance to clinicians who serve youthful offenders (Coll, Thobro & Hass, 2004). Psychosocial development, which includes emotional, personality, and social development, is best understood from an ecological context, and is nurtured from ecological interactions between family, community, culture, and social norms and values.

During the past fifty years, wilderness and adventure programs have been utilized as a therapeutic intervention for adolescents involved in America's juvenile justice systems. While they vary in program design and delivery, they all address key developmental concepts, such as emotional, behavioral and social development. The program that is the focus of this research project is the Wilderness Endeavors Program, a correctional wilderness and adventure program for youthful offenders in the state of Minnesota.

The Wilderness Endeavors Program

Established in 1955 by the Minnesota Department of Corrections (MN DOC), Thistledew Camp was designed as a work camp for young offenders. By the mid 1960's an outdoor program called *Challenge* was added, and became a significant part of the residential treatment program. Today, Thistledew Programs continues to be operated by MN DOC (MCF-Togo), and is a residential drug and alcohol treatment center for juvenile offenders. In the 1990's, a 21 day Wilderness Endeavors Program was added as a unique intervention for first time youthful offenders, or as an intervention to prevent youth from entering the juvenile justice system (Thistledew Task Force, 2002). Although the Wilderness Endeavors Program was conceptually designed as a diversion for first time youth offenders, few referrals are actually first time offenders. Some counties, especially the rural counties of Minnesota, have few placement options for non-violent offending youth. Many youth are referred to Wilderness Endeavors to serve as a diversion in order to deter future offending behaviors, which if persistent, will likely result in a long term residential placement or incarceration.

This Wilderness Endeavors Program was conceptually based on the Wilderness Challenge program. However, it is quite different in that the youth in the residential program return to the dorm most nights, and are only camping overnight during the 6 day expedition. Currently Thistledew Programs is transforming the Challenge program, and modeling it after the Wilderness Endeavors Program. This unique program and is compromised of four distinct phases (see Figure 1.1).

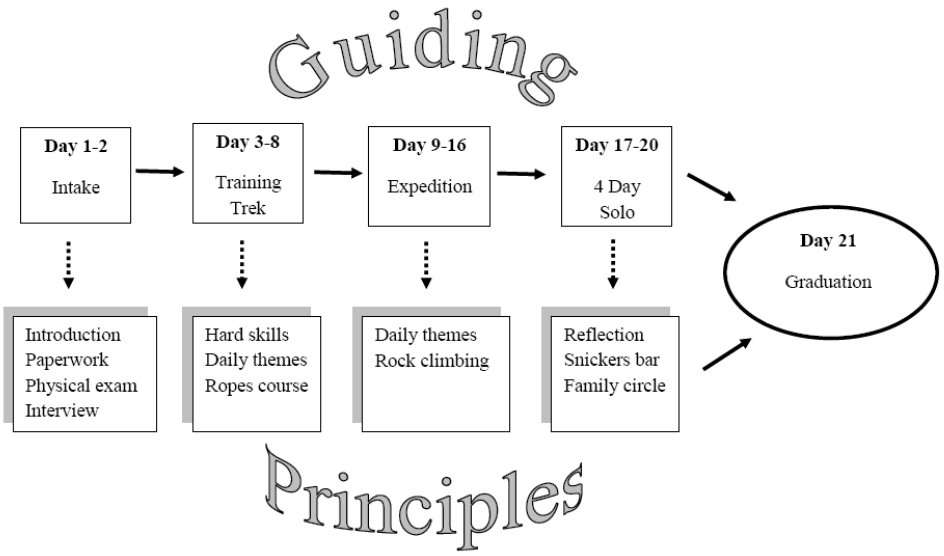

Figure 1.1 - Conceptual Model of the Wilderness Endeavors Program

During the first phase (Intake), students are picked up by Wilderness Endeavors staff from the referring Minnesota counties. The first couple days are spent orientating students to the program. Students complete the required paperwork, and undergo a physical examination and psychological interview conducted by a licensed caseworker.

The second phase (Training Trek) students learn the hard wilderness survival skills that they will need during the expedition travel. Students are introduced to daily themes, which will continue throughout the program (such as the guiding principles, restorative justice, support systems, life paths, communication styles, and role models). At the end of each day in the second phase, students will participate in Individual Reflection Time (IRT), where they will have to complete written assignments pertaining to the daily theme. Reflective assignments are then processed

in group circle each evening. Students also participate in low/high ropes course initiatives during this phase.

During the third phase, (Expedition) students participate in wilderness travel for eight days. Expedition travel is via canoe (Boundary Waters Canoe Area Wilderness, Voyagers National Park or the Big Fork River), backpacking (Superior Hiking Trail), or via cross country skis and sleds during the winter months (George Washington State Forest). The rock climbing activity usually occurs prior to or just after expedition. IRT assignments occur throughout the third phase as well.

In phase four (solo), students are put in solo sites to camp alone for four days. This is a time of intense personal reflection, and planning for the return home. Students have several assignments to complete during this time (e.g. Relapse Prevention Plan, finalizing goals). Students are closely supervised during this time, and are given food rations for the entire solo experience. They are also given the "snickers bar assignment" at this time, which is significant, as the candy bar becomes a metaphor for the most critical behavior that the student must change upon returning home. Finally, for parents who wish to participate, a family circle is held in the student's solo sight; typically on the last day of solo.

The final day of the Wilderness Endeavors Program is graduation. Family and support systems (probation officers, social workers) are encouraged to attend. This takes place in a group circle, and each student must present a speech that he/she has written during the four day solo. At the end of the speech, the student goes to the middle of the circle, where there are two bowls. Each student leaves behind their

snickers bar (negative behavior), and takes with them a Thistledew coin with the guiding principles (see Table 1.1) inscribed on the back (positive behavior).

Other central program features is the use of the talking circle, trust initiatives, challenge activities, wilderness expedition travel, and the emphasis of the Thistledew five guiding principles throughout the program. Furthermore, programming is very intentional. For example, on the rock climbing day the daily theme is "barriers", and on ropes course day the daily theme is "support systems." A therapeutic emphasis helps students generalize the program activities, and transfer this learning to real life situations they may experience back home. Students also receive school credit in English, science, and physical education.

Table 1.1 - The Five Guiding Principles of Thistledew Programs

	Principle
1	I recognize that our physical and emotional safety must always come first.
2	I will have an empathetic, respectful, and sincere attitude toward all individuals.
3	The HOW principle: I will be: **H**onest with ourselves and others; **O**pen to other points of view; **W**illing to step outside of our comfort zone.
4	I believe that recognizing success is more effective than pointing out failure.
5	I believe that individuals are responsible for their own actions.

Significance of the study

There are several benefits resulting from the assessment of the Thistledew Wilderness Endeavors Program. First, this assessment will enhance our understanding

of the use of adventure and wilderness therapy in a juvenile correctional setting for court-referred youth in a program which has been in place since the 1960s and has yet to be evaluated. Second, it will provide an understanding for a juvenile correctional treatment model that combines best practices in adventure and wilderness therapy. This treatment reflect a strengths based approach which places the focus on resilience and allows the intervention assessment to move beyond a concern over youth problems into a commitment to youth development with the goal being the prevention of further negative outcomes. Third, this assessment will allow the researcher to explore the outcomes associated with the Thistledew Wilderness Endeavors Program which includes perceived-self competence, hope, and adolescent resiliency and are theorized to lead to a reduction in recidivism. Fourth, if the program is found to be associated with positive outcomes, the mission of the Minnesota Department of Corrections will be realized; if the intervention is not reasoned to effectuate change, then potential program improvements can be developed to address these issues.

Fifth, this assessment will provide direction for future research in the use of adventure and wilderness therapy in correctional settings for youth. Lastly, if the intervention proves effective, subjects will be better functioning individuals in their communities, and will potentially have no further involvement in the juvenile justice system.

Purpose of the study

The purpose of this exploratory study was to examine the contributions of perceived self efficacy, resilience, and hope in youthful offenders who participate in a wilderness adventure program, and how these contributions impact future recidivism.

Research Questions

In the context of the juvenile justice system, for the specific group in the study:

1) What are the effects of the Wilderness Endeavors Program experience on participants' self-efficacy, resilience, and hope for the future?

2) Does the successful completion of the Wilderness Endeavors Program have a long-term (six months) positive impact on future offending behaviors of participants, as compared to a control group of similar youth referred to some other correctional disposition?

3) What are the contributions of self-efficacy, resilience, and hope to recidivism in Wilderness Endeavors Program participants?

4) What effect does the demographic and risk characteristics influence recidivism in Wilderness Endeavors Program graduates?

Hypotheses

There is body of research on the subject of the contribution of wilderness and adventure programs on an individual's self-efficacy. Increases in self-efficacy are

suggested to be a result of the sense of accomplishment that occurs after mastery of challenging course components. Therefore, this research proposes the following hypothesis:

Hypothesis 1: Participating in the Wilderness Endeavors Program will result in an increase in participants' self-efficacy.

Psychological resilience is construct which speaks to an individual's ability to cope and "bounce back" from adversity. Since most individuals who participate in wilderness and adventure programs are navigating new experiences and challenges, the experience is laden with opportunities to learn healthy ways of dealing with adversity, and to learn new coping skills. Therefore, this researcher proposes the following hypothesis:

Hypothesis 2: Participating in the Wilderness Endeavors Program will result in an increase in participants' resilience.

Hope is psychological construct that is goal oriented, and directed toward the future. Wilderness and adventure programming is centered on planning and achievement of challenging goals. A sense of hope is established through the attainment of challenging goals and objectives. Furthermore, the literature has clearly identified a relationship between self-efficacy, and hope for the future. Therefore, this researcher proposes the following hypothesis:

Hypothesis 3: Participating in the Wilderness Endeavors Program will result in an increase in participants' hope for the future.

Wilderness and adventure programs are suggested to increase psychological resilience, self-efficacy, and hope for the future. These are critical developmental constructs of adolescence and the unique nature of these programs accentuate the nurturing of these constructs' in all facets of programming. Other state correctional programs do not have curriculum that allows for such a rich facilitation of these critical dimensions of adolescent development. Therefore, this researcher proposes the following hypotheses:

> *Hypothesis 4*: Wilderness Endeavors Program participants are less likely to recidivate than a control group of juvenile offenders with similar demographic and risk characteristics.

> *Hypothesis 5*: Wilderness Endeavors Program participants are less likely to have future probationary placements than a control group of juvenile offenders with similar demographic and risk characteristics.

Non-involvement in school and / or work has often been associated with delinquency and anti-social behavior for adolescents. While not strong predictors of recidivism, the literature has yet to find conclusive evidence on the effects of school involvement and employment. With increases in self-efficacy resulting from participation in the Wilderness Endeavors Program, participants are more likely to be hopeful of their futures. Therefore, this researcher proposes the following hypotheses:

> *Hypothesis 6*: Wilderness Endeavors Program participants are more likely to be involved in school than a control group of juvenile offenders with similar demographic and risk characteristics.

Hypothesis 7: Wilderness Endeavors Program participants are more likely to be involved in employment than a control group of juvenile offenders with similar demographic and risk characteristics.

Wilderness and adventure programs are suggested to increase psychological resilience, self-efficacy, and hope for the future. These are critical developmental constructs of adolescence and the unique nature of these programs accentuate the nurturing of these constructs' in all facets of programming. This is unique from a previous hypothesis, which proposed comparing recidivism rates between treatment and control groups. Therefore, this researcher proposes the following hypothesis:

Hypothesis 8: Increases in self-efficacy, resilience and hope in Wilderness Endeavors Program participants will be associated with lower incidences of recidivism.

There is sufficient evidence in the literature to support several constructs as being key indicators for recidivism of juvenile offenders. Being male, having an early age of onset of contact with the juvenile justice system, and having a high risk score are all predictive of future recidivism. This could be beneficial information for Wilderness Endeavors Program managers in terms of program evaluation and development. Therefore, this researcher proposes the following hypotheses:

With respect to the treatment group, and in the context of the demographic and risk characteristics:

Hypothesis 9: Gender is a predictor of recidivism for Wilderness Endeavors Program participants.

Hypothesis 10: Age of first offense is a predictor of recidivism for Wilderness Endeavors Program participants.

Hypothesis 11: Risk score is a predictor of recidivism for Wilderness Endeavors Program participants.

Definitions of Key Terms

1. *Juvenile Justice System* – Juvenile justice is the area of criminal law applicable to persons not old enough to be held responsible for criminal acts. The main goal of the juvenile justice system is rehabilitation rather than punishment (Cornell School of Law, 2008).

2. *Thistledew Programs (MCF-Togo)* – A state correctional facility in northern Minnesota. Their programming consists of an adult women's program (Challenge Incarceration Program), a long term residential program (chemical dependency) for boys, and short term intervention program for both male and female youthful offenders (Wilderness Endeavors).

3. *Wilderness Therapy* - Although there is no one single clear definition, wilderness therapy can be broadly defined as the use of outdoor adventure pursuits, such as primitive skills and reflection, to enhance personal and interpersonal growth (Kimball & Bacon, 1993). Wilderness therapy should be therapeutically based,

facilitated by qualified professionals, and should strive to make positive change in specific behaviors of the participants (Russell, 2001).

4. *Adventure Therapy* - Adventure therapy is the creation of challenge in a safe environment through adventure activities for groups to solve as a single unit designed for psychological treatment and education (Parker, 1992; Ziven, 1988).

5. *Adjudicated Youth* –Although the definition can vary widely across states and countries, it is generally referred to in the United States when children under the age of 18 violate the law, or have committed a status offense (behaviors if committed by an adult would be considered illegal), they are put under the jurisdiction of the juvenile justice system (Scott, Nelson, Liaupsin, Jolivette & Riney, 2002).

6. *Delinquency and Status Offense* – An offense for which an adult could be prosecuted in criminal court (Snyder & Sickmund, 2006).

7. *Self- Efficacy* - Self-efficacy has been defined as a reflection or belief of one's capacity to do well on a particular task or situation (Mitchell, Hopper, Daniels, Falvy & James, 1994).

8. *Hope* – Hope reflects an individual's perceptions reflecting their capabilities to clearly conceptualize goals, to develop strategies to reach those goals (pathways), and to initiate and sustain the motivation (agency thinking) in order to achieve those goals (Snyder, Lopez, Shorey, Rand & Feldman., 2003).

9. *Resilience* – Resilience can be broadly defined as a capacity to deal with stress and pressure, to rebound from adversity, to set clear and realistic goals, and to problem solve (Brooks, 2005).

10. *Recidivism* – The most common definition for recidivism is the re-arrest or re-conviction of new crime (U.S. Sentencing Commission, 2004).

Delimitations

This study was delimited in several ways. First, due to fiscal cutbacks which resulted in a lack of referrals from the counties, the sample size was much less than originally anticipated during the proposal phase of this project. Secondly, due to the structure of the juvenile justice system in Minnesota, consent had to be obtained with each participating county of Minnesota. Some referring counties chose not to participate, which significantly impacted the referral base and sample size.

Third, the project budget delimited this study. In order to obtain a sample size of the original proposed 100 treatment subjects, this project would have had to continue for another year, and there was no funding to continue beyond one year, thus impacting the final sample size of this project.

Fourth, the selection of survey instruments was significantly impacted by the length of the instrument. Wilderness Endeavors Program managers were concerned about the time required of participants to complete the instruments, as intake and graduation days were structured with many other program protocols and activities.

The choice of instruments was heavily influenced by the time it took to complete them, rather than exclusively being based on theoretical or empirical evidence, thus, delimiting this study.

Fifth, the use of Adolescence Attitudes Resiliency Scale (ARAS) delimits this study in a couple of ways. This instrument has little history in the literature, and due to this, there was little reliability and no validity data available for. Additionally, due to time concerns of the Wilderness Endeavors Program managers, the instrument had to be reduced in length. Three subscales were eventually omitted, and this done largely on conjecture rather than with theoretical or empirical evidence. Both of these issues delimit the results obtained from this specific instrument.

Sixth, the six month follow was originally designed to obtain much richer detail on the status of the treatment subjects, thus, being hoping to reveal the transference of salient program outcomes six months post treatment. However, due to the time concerns of probation officers, the follow up form was reduced to "yes" and "no" responses surrounding recidivism. Thus, this delimits the researcher's ability to draw inferences on longer term program effects on the lives of the participants.

Finally, the results of this program evaluation depend solely on the responses of the referred youth. No other information was gathered from program staff or county officials as to the efficacy or outcomes of the Wilderness Endeavors Program, thus, delimiting the results of this evaluation.

Limitations

There are several limitations to this study, all of which warrant discussion. First, the sample is a small convenience sample, and participants were limited to those youth referred by counties who agreed to participate in the study. . Because of this, the results of this study cannot be generalized beyond the participants in the research project.

Secondly, obtaining necessary covariates (e.g. age of first offense, risk score) posed a significant limitation, as several county probation officers refused to participate despite numerous contacts. Furthermore, control recruitment, along with the six month follow up on probationary status, required the commitment and participation of the probation officers. Due to this, matching of the some of the participants could only be done with age and gender, and recidivism data was not obtained for some participants, limiting the conclusions made on the results of this project.

Another limitation of this study is attrition among county employees and youth subjects. Employee turnover within the county agencies, and/or family displacement, created difficulties with the six month follow up of treatment and control participants. Additionally, some participants were excluded from the study due to refusal of the parent, child, or county to participate. Furthermore, students who were removed from the program early and lost or missing pre or post tests also resulted in higher attrition rates.

The matched pairing of treatment and controls also presented a significant limitation. Due to the nature of the juvenile justice system in Minnesota, control recruitment had to be done at the county level, and matching was left at the discretion of county probation officers. As a result, some treatment individuals were matched with control members solely on age due to the lack of participation of some county probation officers. To address this, Thistledew Program managers contacted probation officers who were reluctant to participate in the study, and encouraged them to respond. Additionally, to help address the difficulties with control recruitment, the Arrowhead Regional Corrections (ARC) of Minnesota graciously supported the study by providing the researcher with a pool of controls in which to utilize for the study.

There are also inherent biases in this study which can threaten internal and external validity. Sources of selection bias in this study include the non-random selection of subjects, failure to locate and unwillingness of people to participate, and the inability to obtain desired data (i.e., demographic characteristics, lost or missing data). To minimize this, the researcher has clearly defined the study population in time and place, and choosing participants from the same population. To address the unwillingness of people to participate, and loss of subjects to attrition, the researcher and Thistledew Program managers made a collaborative effort to maximize participation and minimize information and participant loss.

Non-response and response biases were also present, and can be viewed as a significant limitation. This is especially true considering that many of the individuals in the sample population were unwilling to participant when sent by the court, or they did not respond accurately to the questions on the surveys. To address this limitation,

the two Wilderness Endeavors recreation therapists, as well as the three program managers were provided significant training and oversight in the administration of the instruments. Although the administration of the instruments was the responsibility of the Recreation Therapists and managers, unforeseen problems occurring in the day-to-day operations (i.e., staff shortage, emergencies) resulted in instruments being administered in haste (without proper instruction), or at the incorrect time, being administered by someone who was not trained, or not being administered at all. In addition, if the staff was not present during administration, they were not available to assist clients with questions, or to ensure completeness of the instruments. Finally, due to the shared responsibility of administration, there exists the possibility of inconsistencies of administration across staff. It was hoped that extensive training and oversight by the researcher helped to address these issues.

Language and reading ability are potential barriers based on the presumed diverse make-up of participants and parents/guardians involved in the study. The possibility exists that participants could be classified as learners for whom English is not the primary written or spoken language. Efforts were made to provide verbal translations of written materials, such as program handouts, parental consents, and child assents, in order to ensure comprehension.

Lastly, the delimitations of this study limit the external validity of the results. The results presented in this study cannot be generalized to the larger population of youthful offenders, or to any other populations that are served through wilderness and adventure programs. The extent to which the reader may wish to apply these results to

their own situation or setting will only be guided by the comprehensiveness of the analysis, and how they may wish to apply it to their own setting.

CHAPTER 2 - REVIEW OF THE LITERATURE

Introduction

In this review of the literature, it was important to understand the developmental challenges faced by youth in the juvenile justice system. The literature suggests that there are two developmental theories that can help the reader clearly understand the challenges of these youth; Social Learning Theory (Bandura, 1977), and Ecological Theory (Bronfenbrenner, 1979). Furthermore, I propose that these theories actually ground the therapeutic framework of the Wilderness Endeavors Program, and will help the reader conceptualize wilderness and adventure programming as an effective therapeutic milieu for adolescents in the juvenile justice system.

The first section of this literature review presents the developmental theories of Urie Bronfenbrenner and Alfred Bandura. A discussion of the constructs of self-efficacy, resilience and hope follows. The review of the literature will illustrate a

relationship between the constructs of self-efficacy, resilience, and hope, as well the theoretical support from the developmental theories of Bandura and Bronfenbrenner. A discussion of the social and ecological contributions to juvenile delinquency will conclude this section.

The second section presents the theoretical framework of wilderness and adventure programming, highlighting the salient relationship to the adolescent developmental theories of Bandura and Bronfenbrenner. The third section addresses the characteristics of youthful offenders, as well as critical issues confronting the juvenile justice system. The purpose of this section was to illustrate the social and ecological context of the lives of youthful offenders, and to demonstrate the need for alternative interventions for this population. A review of the literature on recidivism concludes this section, emphasizing its efficacy as an outcome measure in the criminal justice system. The fourth and final section of this chapter addresses evaluations of wilderness and adventure programs in the context of juvenile justice system.

Child Development Theory

Ecological Theory

Kurt Lewin, often referred to as the father of social psychology, postulated that human behavior cannot be dictated by nature or nurture alone. Rather, he suggested that human behavior is shaped via an *interaction* of nature and nurture. His idea is represented in his famous equation $B = f(P.E)$; that behavior is a function of a person's environment (Marrow, 1969). Clearly Lewin was an early pioneer in social

psychology, and heavily influenced the work of other social and developmental psychologists, such as Urie Bronfenbrenner.

Bronfenbrenner, in his ecological theory of development, positioned himself from a sociocultural view of development. He challenged the scientific limitations of human development research to date; arguing that the clinical experiments were too artificial, short lived, eliciting unusual behaviors that were difficult to generalize beyond the experiment itself. In his criticism of contemporary research, Bronfenbrenner (1977) said that developmental psychology "is the science of the strange behavior of children in strange situations with strange adults to the briefest possible periods of time." Instead, he suggested that there are five ecological systems that ranged from minute inputs of direct interaction with social forces, to much broader based inputs of society and culture. He identified these as the microsystem, mesosystem, exosystem, macrosystem, and the chronosystem (Bronfenbrenner, 1979). The microsystem, upon which most developmental research has focused, is the setting where the individual lives (parents, siblings, peers, school, and neighborhood). This is the most interactive system for the individual, where he/she is not passive, but rather, helps to construct settings. Bronfenbrenner (1979) described the microsystem as "a pattern of activities, roles, and interpersonal relations experienced by the developing person in a given setting with particular physical and material characteristics (p.22)." Bronfenbrenner stressed the importance of the critical term *experienced*. Furthermore, a number of researches have highlighted the importance of sibling relationships as important contexts for socialization, and therefore, it is not surprising that these

relationships have been suggested to be critical contexts for delinquency training (Criss & Shaw, 2005).

The mesosystem is the relations or connections between microsystems, such as relations among home, school, peer group, neighborhood. Bronfenbrenner (1979) describes the mesosystem as "the interrelations among two or more settings in which the developing person actively participates (p 25)." In other words, the mesosystem is a system of microsystems that are formed as the child encounters, and becomes involved with, new settings.

The exosystem, is an extension of the mesosystem that embraces other social structures, (e.g. world of work, mass media, governmental agencies) and are comprised of experiences that occur in these social settings, where the individual is passive, but nonetheless, have an influence on the individual (e.g. parents employment, parents network of friends, activities of the local school board, etc.). Bronfenbrenner (1979) described the exosystem as "one or more settings that do not involve the developing person as an active participant, but in which events that occur affect, or are affected by, what happens in the setting containing the developing person.(p 25)."

The macrosystems are the beliefs, norms, and values of the culture in which the individual lives (e.g. political or religious orientations, belief systems, and life styles). Bronfenbrenner (1979) described the macrosystem as "consistencies in the form and content of lower-order systems that exist, at the level of the subculture or

culture as a whole, along with any belief systems or ideology underlying such consistencies (p 26)."

After the publishing of his seminal work *The Ecology of Human Development: Experiments by Nature and Design,* Bronfenbrenner recognized that these ecological systems operate through space and time, and he called this the chronosystem, which is the evolution of all of the external systems over time (Bronfenbrenner, 1979). Bronfenbrenner was not optimistic for the future of the healthy development of children. At the most general level, he stated that chaos continues to grow in the lives of children, families, peer groups, schools, neighborhoods, and workplaces. This chaos, in turn, undermines the formation of healthy relationships and activities that are critical for psychological development. Furthermore, much of the conditions that lead to this chaos are beyond the micro and macro systems; such as decisions of public policy, and economic and social changes. A continued rise in chaos, argued Bronfenbrenner, would be reflected in still higher levels of youth crime and violence, single parents, reductions in scholastic achievement, and eventually, a deterioration of our nation's human capitol (Bronfenbrenner, 1995)

Since his initial theories formulated in the 1970's, Bronfenbrenner (1995) proposed what he referred to as a bioecological paradigm: Especially in its early phases, and to a great extent throughout the life course, human development takes place through processes of progressively more complex reciprocal interaction between an active, evolving biopsychological human organism and the persons, objects, and symbols in its immediate environment. To be effective, the interaction must occur on a fairly regular basis over extended periods of time (p 620).

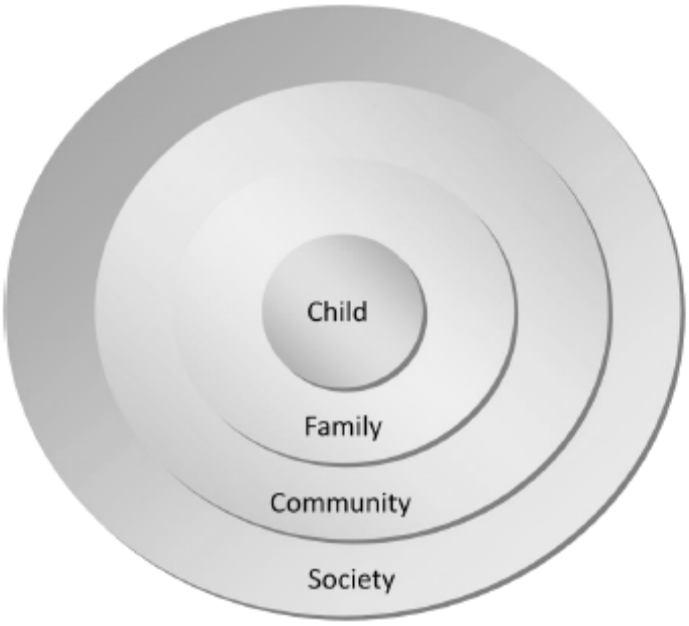

Figure 2.1 The Ecology of the Developing Child

Adapted from: Bronfenbrenner (1979)

Figure 2.1 simplifies the ecological context of developing children, and illustrates the critical environments (systems) that children must successfully navigate and assimilate into their lives. Furthermore, these environments must be healthy, and above all, nurturing. Most would agree that healthy, protective ecological systems and nurturing environments typically result in well-developed individuals. The literature clearly documents that children who are exposed to adverse ecological conditions are put at risk for poor adjustment (Prelow, Weaver & Swenson, (2006). These adverse conditions, often referred to as risk factors, do not occur in isolation, but are collectively manifested in all ecological systems. Unfortunately, today's youth are faced with many risk factors that jeopardize a healthy ecological environment, such as poverty, alcohol and drugs, violence, acute traumatic events, broken homes, loss of

social capitol, and social justice issues (Shader, 2003). Other challenges include poor parenting and peer relations, and lack of positive role models. Furthermore, research has suggested two major developmental ecological hazards in youthful offenders include destructive relationships and loss of purpose, or hope (Coll, Thobro & Haas, 2004). These are important developmental foundations for youth, and are supported in both the ecological and social learning theory literature.

Social Learning Theory

Social learning theory (SLT) posits that human behavior is shaped by interactions between the individual and the environment; and that these behaviors are gradually modified through associations with specific kinds of environmental responses (Sroufe, Cooper & DeHart, 1992, p.17). Bandura rejected the claims of earlier behaviorists', such as Skinner, and postulated that human beings are not like laboratory animals; but rather, humans have motives and expectations. He further argued that social learning is a cognitive process and people do not just automatically respond to reward and punishment; and emphasized that situations are carefully analyzed, and individuals think about how to behave (Steinberg, Belsky & Meyers, 1991). Additionally, Vygotsky (1978) contributed to our knowledge of social learning, positing that the social environment was a critical factor in contributing to the cognitive development in children.

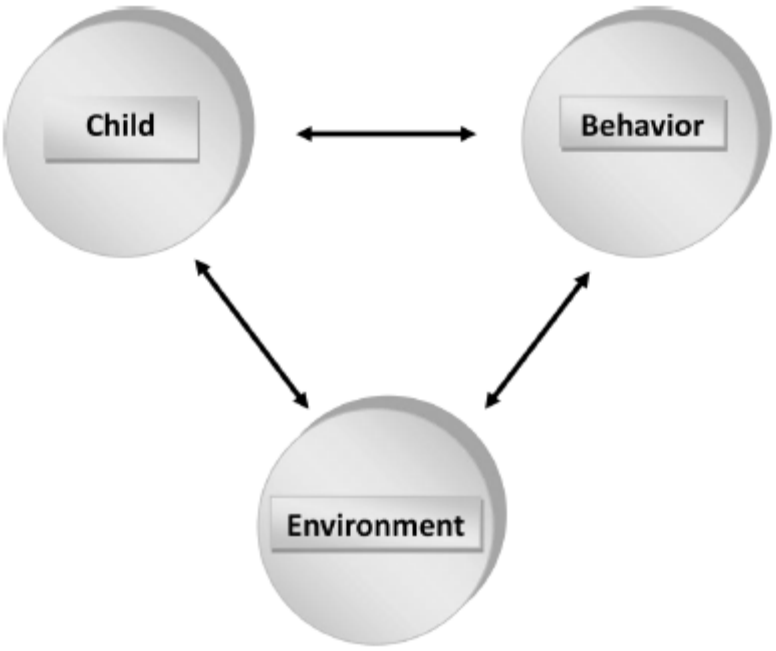

Figure 2.2 – Social Learning Theory Model

Adapted from: Bandura (2001)

Social learning theory maintains that children develop through reciprocal interactions (see figure 2.2) between the developing child, the environment, and the behaviors of other people. According to SLT, children learn through modeling; and by observing how others behave, and taking note of the consequences of that behavior. Social learning theory stresses four concepts. *Differential associations* are the direct association of the behavior of others, and occur primarily in the child's microsystem. The second concept, *definitions*, refers to an individual's attitudes toward deviant or conforming behavior, and occurs through contingencies of both positive and negative reinforcement. Social learning theorists have identified four definition dimensions; beliefs, attitudes, justifications, and approval / disapproval (Verrill, 2008). The third concept, *imitation*, involves the idea that individuals note and model the behavior and

outcomes of others. The fourth concept, *differential reinforcement*, refers to the conditioning of behavior. For example, individuals anticipate or predict the outcome of present or future behavior based on the reward or punishment of past or present behavior (Verrill, 2008).

One of the most detrimental behaviors learned through modeling is aggression. The development of aggression in youth has attracted the attention of developmental, sociological, and criminological researchers. Behavior and aggression problems in children have long been associated with juvenile delinquency, and a large body of evidence supports the knowledge that disruptive behavior problems, at least for boys, is one of the most salient predictors of criminal behaviors, including violent offending (Broidy, Nagin, Tremblay, Bates et al, 2003). Other research has proposed that exposure to violence significantly creates adjustment problems in youth. Bandura (1973) suggested that children who are exposed to frequent and severe conflict in the home appear to legitimize argumentative and aggressive behavior, and may also convey the notion that this kind of behavior will produce some kind of reward (Skoop, McDonald, Manke & Jouriles, 2005). Clearly, Bandura recognized the impact of environmental factors on youth development.

There is a substantial body of literature on SLT applied to criminal behavior (Akers, Krohn, Lanza-Kadue & Radosevich, 1979: Burgess & Akers, 1966; Kelley, Loeber, Keenan & DeLamatre, 1997;Simons, Whitbeck, Conger & Conger, 1991; Winfree, Backstrom & Mays, 1994). Youth who have poor role modeling, ineffective parenting, and are deprived of nurturing environments, frequently do not develop pro-social behaviors, problem solving skills, or many other developmental tasks.

Furthermore, if children develop weak bonds to conventional norms and pro-social behaviors, the result is often delinquent behavior. As such, the criminal behavior literature suggests a *social control theory,* which postulates that all children naturally tend to engage in deviant behaviors unless adequate social control mechanisms are in place to prevent or restrain such behaviors (Simons, et al, 1991).From a standpoint of social learning and juvenile justice, there many ecological factors that contribute toward successful child development.

Most wilderness and adventure programs, including Wilderness Endeavors, incorporate principles of SLT, which is an ideal vehicle for social learning to flourish. Modeling, reinforcement, rehearsing appropriate behaviors and problem solving are keystone behavioral therapy components included in program theory and delivery (Hill, 2007; Russell & Farnum, 2004). Through the use of small groups (such as processing groups, task-oriented groups), students must cooperate and work together, and naturally, interpersonal skills between members are enhanced. These experiential based groups provide an excellent medium where individuals can learn about how other's perceive them, and their interpersonal skills (Corey & Corey, 2000). .

Social learning also occurs in wilderness programs via the natural progression of the program. Students progress through natural stages during the course of the program, developing increased status, responsibilities, and rewards (Russell & Farnum, 2004). Not surprisingly, this behavior is observed by others, and perceived as something to aspire to. Through these enhancements in social behaviors and status, increases in self-confidence and efficacy naturally occur.

Self Efficacy, Resilience, and Hope Theory

Self Efficacy. Discussions in recent years surrounding positive youth development have included the constructs self-efficacy, resilience, and hope. Although related, they are not identical. They are inter-related as conceptualized cognitive sets that (a) pertain to the individuals outcomes or goals, (b) pertain to the future, (c) are probably the most powerful determinants of behavior (Magaletta, 1999).

The concept of self-efficacy is widely believed to play an important role in task performance and motivation. Grounded in social cognitive theory (Wood & Bandura, 1989a), self-regulation (Kanfer & Kanfer, 1991) and goal setting (Locke & Latham, 1990), self- efficacy is seen as an important determinant of task motivated behavior, and subsequent performance (Mitchell, Hopper, Daniels, Falvy & James, 1994).

Self-efficacy has been defined as a reflection or belief of one's capacity to do well on a particular task or situation (Mitchell et. al, 1994). Wood and Bandura described self-efficacy as "referring to beliefs in one's capabilities to mobilize the motivation, cognitive resources, and courses of action needed to meet situational demands" (p.408). Kanfer & Kanfer (1991, p.41) viewed self-efficacy as "complex cognitive judgments about one's future capabilities to organize and execute activities requisite for goal attainment." Others (Gist & Mitchell, 1992; Mone & Baker, 1992) refer to the word capability. Clearly, self-efficacy refers to the belief one has in what he/she can do on a particular task.

Personal efficacy, one of the most important mechanisms in human agency, is the foundation of human motivation, well being, and accomplishment (Bandura,

2006). Furthermore, it is understood that human beings do not live a solitary existence. Many of life's accomplishments are only achievable through a socially collective effort. Bandura (2006) elaborates on this:

> In the exercise of collective agency, people pool their knowledge, skills, and resources, provide mutual support, form alliances, and work together to secure what they cannot accomplish on their own. People's shared beliefs in their joint capabilities to bring about desired changes in their lives are the foundation of collective agency. Perceived collective efficacy raises people's vision of what they wish to achieve, enhances motivational commitment to their endeavors, strengthens resilience to adversity, and enhances group accomplishments (p.5).

Resilience. Definitions of resilience are varied, and lack a solid theoretical foundation. Most definitions are linked to other theoretical findings, which all express features of resilience (Hjemdal, Friborg, Stiles, Martinussen & Rosenvinge., 2006). Some view resilience as a personal attribute or trait, while others view it as a developmental process that reflects an individual's ability to respond and adjust emotionally to adversity (Tedeschi & Kilmer, 2005). Brooks (2005) defined resilience as "a child's capacity to deal with stress and pressure, to rebound from adversity, to set clear and realistic goals, to problem solve, to treat oneself and others with respect". Masten & Coatsworth (1998) define resilience as "the achievement of competence or positive developmental outcomes under conditions that are adverse or that challenge adaptation." Others have struggled with the definition, referring to resilience as an ability to meet life's challenges, to have the ability to adapt, to have the capacity to

express empathy, to have purpose, and have a sense of hope for the future (Lightsey, 2006).

In light of the challenge on having a theoretical definition of resilience, Hjemdal et. al (2006) offer a definition that could facilitate further research; "resilience is the protective factors, processes, and mechanisms that, despite experiences with stressors shown to carry significant risk for developing psychopathology, contribute to a good outcome." This definition appears to be congruent with Fergus and Zimmerman (2005) who suggest a protective model of resilience, and with Johnson and Wiechelt (2004) who refer to risk and protective factors involved in resilience.

Many evidence based interventions have supported the focus on increasing resiliency to negative life stressors in youth (Biglan & Taylor 2000; Kumper & Alvarado, 2003). Research has shown that two mediators of anti-social behavior, lack of self regulation (Dishion, 2006) and executive function problems (Greenberg, 2006), are directly related to the development of resilience. Additional research has focused on resilience as transactional processes (Kumper & Summerhays, 2006). Kumper (1999) suggests that transactional processes, which are a set of responses to stress, should be discussed when designing intervention programs for youth. Kumper further explains that stressors should be reframed into challenge or growth activities, providing the stress levels are not too high (Luthar and Zigler, 1991); by encouraging youth to stretch themselves by setting challenging, yet achievable goals, and by stepping out of their comfort zone. These ideas are congruent with Wilderness Endeavors challenge activities, and with the Thistledew Guiding Principles.

Additionally, Masten (1994) suggests a socialization process for children and adolescents should include processes of modeling, coaching, teaching, supporting, nurturance, reinforcement, and encouraging the attempt of reasonable challenges. By using these socialization process, Kumper & Bluth (2004) improvement will occur in the following five resilience areas; 1) Spiritual / Motivation, 2) Cognitive, 3) Behavioral, 4) Emotional, and 5) Physical. These resilience areas recognized by Kumper & Bluf are embraces within the language of Thistledew's five guiding principles.

Central to resilience and the Wilderness Endeavors Program is the use of Restorative Circles throughout all aspects of program delivery. The Circle process, adopted from indigenous wisdom and cultures, seeks to achieve balance in the lives of participants. Good character is a resulting goal of Circles, and can be defined as achieving balance between physical, mental, social, and spiritual dimensions of life. Studies of resilience in Native Americans support this understanding (Kumper & Summerhays, 2006). Furthermore, one of the Wilderness Endeavors Program components is the Restorative Family Circles, which are voluntary for participants (and parents). Family strengthening approaches, such as these circles, should be highly supported, as they have an enduring impact on increased resilience, and in the improvement of outcomes (Kumper & Alvarado, 2003). Therefore, the development of resilience, in this context, can be associated with the Wilderness Endeavors Program themes of restorative justice, the solo experience, goal setting, and furthermore, directly linked to the guiding principles.

Hope. Among several constructs related to psychological resilience is hope for the future. An emerging concept in the field of positive psychology hope theory is a strength-based construct, and reflects an individual's perceptions reflecting their capabilities to clearly conceptualize goals, to develop strategies to reach those goals (pathways), and to initiate and sustain the motivation (agency thinking) in order to achieve those goals (Snyder, Lopez, Shorey, Rand,& Feldman., 2003). Hope theory emphasizes other constructs of positive psychology, such as goal attainment theory (Locke & Latham, 1990; Covington, 2000), optimism (Scheirer & Carver, 1985), self-efficacy (Bandura, 1982), and problem solving (Heppner & Petersen, 1982). A major principle of positive psychology is that measurable, positive traits can serve as defense mechanisms against risk factors, such as stressors (Suldo & Hubner, 2002). Hope is an ideal candidate for this (Valle, Huebner & Suldo, 2006).

Snyder, Hoza, Pelman, Rapoff, Ware, Danovsky et al. (1997) developed the Children's Hope Scale as a hope measure for children ages 7-14. To measure hope in adolescents (and adults) age 15 and older, Snyder, Harris, Anderson, Holleran, Irving, Sigmon et al. (1991) developed the Hope Scale. Both instruments exhibit satisfactory internal consistencies, test-retest reliabilities, and convergent, concurrent and discriminate validities (Snyder et. al., 2003; Carifio & Rhodes, 2002).

High levels of hope are directly related to self-efficacy and resilience. High hope scores in youth are correlated with positive social interactions, self esteem, optimism, and academic achievement (Valle et al, 2006). Furthermore, with hope serving as a resilient factor against stressful life events, it should be expected that high hope levels would predict increased life satisfaction, and decreased psychopathology

(Valle et al, 2006). Research has demonstrated that individuals with high hope are able to envision and utilize adaptive coping strategies when faced with adversity (Horton & Wallander, 2001; Lewis and Kliewer, 1996). Therefore, we can expect youth with high hope scores to have increased resilience when faced with stressful life events, and to have a decrease in internalizing and externalizing behaviors.

Hope and self-efficacy are related constructs that pertain to outcomes and goals, pertain to the future, and probably the most powerful determinants of behavior (Magaletta & Oliver, 1999). Furthermore, hope is related to optimism, self-esteem, problem solving ability, and mental health (as quoted in Magaletta & Oliver, 1999). Individuals with high hope are typically optimistic, have greater self efficacy, focus on success rather than failure, develop achievable life goals, and have increased resiliency (Snyder et al., 1997).

The group circle processes that are embedded in the Wilderness Endeavors Program can create a positive sense of self-esteem, greater self-efficacy, and optimism for the future. . The importance of group cohesiveness has been empirically supported in numerous studies (as cited in Marmarosh, Holtz & Schottenbauer, 2005). Yalom (1995) argued that group therapy facilitated collective self-esteem, and initiated self-disclosure and personal exploration which is the foundation of effective therapy. A measure of individual hope, then, can be utilized to measure the efficacy of the circles and other group related components of the Wilderness Endeavors Program.

Wilderness and Adventure Program Theory

This next section presents the theoretical basis of the Wilderness Endeavors Program. Two models are discussed herein; first, the Outward Bound or Hahnian model, and secondly, the adventure programming therapeutic model as hypothesized by Michael Gass (1993).

Outward Bound Model

The theoretical roots of wilderness and adventure programs can be traced back to 1941, when Kurt Hahn, then of Wales, created Outward Bound, a program designed to prepare young sailors for the hardships of World War II. The course consisted of orienteering, search and rescue training, athletics, small boat sailing, ocean and mountain expeditions, an obstacle course (a predecessor to the modern day ropes course), and service to the local communities (Priest and Gass, 1997). Hahn, and his partner Lawrence Holt, created five basic components for Outward Bound. First, students pledged themselves to personal goals. Second, Hahn incorporated control of time and activity. Third, adventure and risk were incorporated; as Hahn believed that this would cultivate a passion for life. Fourth, Hahn believed in working in small groups, as this would cultivate natural leadership abilities. Hahn's fifth component, as mentioned previously, was community service (Fletcher and Hinkle, 2002). After the war, the principles of Outward Bound were expanded to address the continuing issues of social decline in youth. There were six areas which concerned Hahn the most: 1) Fitness, 2) Initiative and Enterprise, 3) Memory and Imagination, 4) Skill and Care, 5) Self-discipline, and 6) Compassion (Priest and Gass, 1997). In the early 1960's, Hahn expanded his programs to the United States. Today, Outward Bound operates over 40

schools in 27 countries and works with many different populations (Priest & Gass, 2005)

Adventure Programming Theoretical Model

Wilderness and challenge programs continued to expand in the United States after the early 1970's. Although there is much variation across programs, the theoretical approach is relatively consistent in curriculum and program delivery. This approach, as explained below, grounds the Wilderness Endeavors Program.

This theoretical approach is based on the work of Gass (1993), as outlined in the text *Adventure Therapy: Therapeutic Applications of Adventure Programming.* The guiding theory states that the *Student* experiences a state of *Disequilibrium* by being placed in a *Novel Setting* and a *Cooperative Environment* while being presented with *Unique Problem-Solving Situations* that lead to *Feelings of Accomplishment* which are augmented by *Processing the Experience* which promotes *Generalization* and *Transfer* to future endeavors after completion of the program. Each of these is briefly outlined below, and integrated within the contexts of the Wilderness Endeavors Program.

The Student. Youth come to Thistledew Programs with presumptions of what it will be like. For some, the anticipation causes a sense of internal stimulation. Others do not experience this feeling until they are immersed in an activity. This internal state permits learning to occur and is referred to as a state of disequilibrium where the student is immersed in a unique, unfamiliar natural and social environment.

Disequilibrium. Disequilibrium refers to an individual's awareness that a mismatch exists between old ways of thinking and new information. Papadopoulos (2000) describes disequilibrium as an "internal conflict between cognitive processes, a psychological or pressure that each individual attempts to lessen"(p. 9). This state of internal conflict provides motivation for an individual to make personal changes. Disequilibrium must be present for learning to occur. By involvement in an experience that is beyond one's comfort zone, individuals are forced to integrate new knowledge or reshape existing perceptions. These qualitative and quantitative changes are referred to as the process of accommodation and assimilation. For example, Wilderness Endeavors students are challenged to *step out of their comfort zone* (guiding principle) throughout the challenge and adversity components of the course, such as rock climbing, high ropes, and expedition travel. Students experience the state of disequilibrium by being placed in these new, novel settings.

Novel Setting. Placement in an unfamiliar environment helps to break down individual barriers. When this factor is combined with immersion into a group, a heightened level of disequilibrium develops. Because of this, the Thistledew Guiding Principles of *physical and emotional safety* and *having an empathetic, respectful, and sincere attitude toward* others are critical foundations for addressing disequilibrium, and bringing the participant back to "emotional balance", or homeostasis. Through this experience, it is reasoned that successfully processing both individual and group disequilibrium will lead to improved self-efficacy, and strengthen the protective factors of resilience in students. Thus, the underlying conditions of effort, trust, a

constructive level of anxiety, a sense of the unknown, challenge, and a perception of risk are integrated within a cooperative environment.

Cooperative Environment. Establishing an atmosphere and method of teaching that makes use of cooperative rather than competitive learning fosters opportunities for students to develop group cohesiveness. This bonding is cultivated through a structure that focuses on shared goals and the provision of time for interpersonal and intrapersonal communication. With students in the WE program, this cooperative environment is nurtured from all of the guiding principles. The daily themes, goal setting, individual reflection times (IRT), and challenge and adversity all require a cooperative environment for learning to occur. Thus, successful group bonding and learning is reasoned to promote self-competence, and contribute to an individual's hope for the future. This foundation for learning exists while each individual and the group are continually presented with challenging group-oriented decisions.

Unique Problem-Solving Situations. New skills and problem-solving situations are introduced to students in a sequence of increasing difficulty, as presented in the WE curriculum. Students are initially challenged in the eight day "training trek", where students learn the outdoor skills necessary for the expedition which occurs later in the 21 day program. As challenge, adversity, and problem solving opportunities increase in difficulty and complexity, the circle processes and social support are critical components to foster self efficacy and resilience. The learning opportunities are concrete and can be solved when group members draw on their mental, emotional, and physical resources. Completion of such tasks leads to feelings of personal and social accomplishment.

Feelings of Accomplishment. Success can lead to increased self-esteem, an increased internal focus of control (self-competence), improved communication skills, and more effective problem- solving skills (resilience), which is theorized lead to hope for the future. A sense of accomplishment is supported by the Thistledew guiding principle *"I believe that recognizing success is more important than pointing out failure."* The meaningfulness of these success experiences is augmented by group circles, which frame all of the discussions and decision-making processes which occur throughout the WE program.

Processing the Experience. Students are encouraged to reflect, and in some manner, express the thoughts and feelings they are experiencing. The processing of experiences is facilitated by the circles inherent in the WE program. The Thistledew guiding principle *"having physical and emotional safety"* must be present in circle for successful processing of experiences and emotions. This processing in circle requires a *"willingness to step out of one's comfort zone"* and if the circle (environment) is nurturing (thriving), it is reasoned that circles will contribute to the protective factors of resilience. Processing is essential if there is going to be a transfer of lessons learned in the program to relevant and germane areas of the youth's lives.

Generalization and Transfer. The ultimate goal of adventure-based therapy is to assist students making connections to what they are learning so that they can integrate their new personal insights and desired behaviors into their lifestyle during the remainder of the program and when they return home. Wilderness Endeavors students become *"accountable for their own actions"* and this is no better facilitated through the daily and restorative justice themes. By students becoming accountable to

themselves and their community, and transferring their new skills back home, it is reasoned that this will facilitated resiliency, and contribute to a student's hope for the future.

A Social - Ecological Model of Wilderness Endeavors

Experiential education, which is the foundation of wilderness adventure programs, is steeped in the theoretical frameworks of Vygotsky, Lewin, and the educational theories of Dewey. The latter, Dewey, spoke out against the ultimate dualism: separation of the human from the natural. His rejection of this philosophical dualism, and his belief that experience was the basis of education (Bronfenbrenner, too, emphasized *experience* as key in development), gave rise to his fundamental ideology – the idea of the experiential continuum (Hunt, 1995). Furthermore, Dewey emphasized that learning occurs in communities:

> The social environment is truly educative in its effects in the degree in which an individual shares or participates in some conjoint activity. By doing his share in the associated activity, the individual appropriates the purpose which actuates it, becomes familiar with its methods and subject matters, acquires needed skill, and is saturated with its emotional spirit (Dewey, 1916, p.26).

Wilderness and adventure programs have been widely criticized for not being based on empirical theory. Now, within the context of social and ecological developmental theories, this researcher proposes that there is solid support for the use of wilderness programs for adolescents.

Figure 2.1 illustrates the theoretical model of the Wilderness Endeavors Program, and theorized outcomes. Grounded in child developmental theory, along with adventure program theory, this researcher posits that the reciprocal interactions between developmental and therapeutic adventure theory create a solid foundation for the Wilderness Endeavors Program, and directly influence critical dimensions of adolescent development (self-efficacy, resilience, and hope). Increases in these domains are theorized to occur through participation in the Wilderness Endeavors Program, which in turn, will positively impact future offending behaviors.

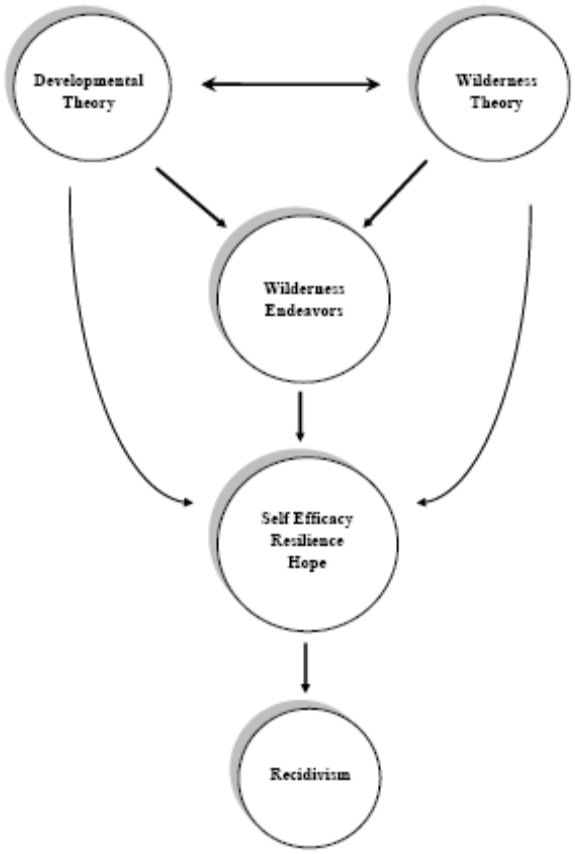

Figure 2.3 - Theoretical Model of Intervention

Wilderness challenge programs involve immersion in an unfamiliar environment, group-living with peers, individual and group therapy, educational curricula and application of group and individual initiatives such as rock climbing, ropes courses and backcountry travel. These processes are all designed to address problem behaviors by fostering personal and social responsibility and emotional growth of clients (Russell, 2000). Wilderness environments promote healing and personal growth because they serve as a place where individuals can learn and practice physical and emotional survival skills as they struggle to exist in this new environment (Friese, Hendee & Kinziger, 1998). Key therapeutic factors that facilitate change for individuals while on expedition include: a) the promotion of self-efficacy through task accomplishment facilitated by natural consequences in wilderness living (Hans, 2000), b) enhancement psychological resilience through adventure education (Neill & Dias, 2001), c) a restructuring of the staff-youth relationship (Russell, 2000), and d) the promotion of group cohesion and development through group and outdoor living (Bandoroff & Scherer, 1994; Glass & Benshoff, 2002)

Bandura's tenets of social learning theory are fundamental to working with youth in the justice system, but are particularly useful in wilderness programs that serve this population. Wilderness challenge programs are powerful mediums for fostering social competence through the development of self-efficacy and psychological resilience.

Increases in self-efficacy through adventure recreation is supported in the literature (Davis-Berman & Berman, 1989; Hattie, Marsh, Neill, & Richards, 1997; Marsh & Richards 1988; Paxton & McAvoy;1998; Propst & Koesler, 1998) With the

Wilderness Endeavors Program, for example, participants are forced to "step out of their comfort zone" through the challenge activities, such as rock climbing, expedition, and high ropes activities. Self-efficacy is enhanced through individual and group achievement, and once established, can be generalized to other situations in which performance was negatively affected by one's belief of personal inadequacy (Bandura, Adams & Beyer, 1977; Bandura, Jeffery & Gajdos, 1975). Thus, improvements in behavior functioning transfers not only to similar situations, but to activities and tasks that are distinctly different as well (Bandura, 1977).

The literature on the positive effects of wilderness and adventure programs have revealed that social support and challenge activities are two critical ingredients, along with difficult goals and the feedback provided by group members and leaders (Hattie et al, 1997; Russell, 2000). Furthermore, a significant part of the daily themes in the wilderness programs relate to goal attainment, whether it be in program, or future oriented (e.g., Relapse Prevention Planning). Adolescents need to commit to goals, as this provides them a sense of purpose and personal accomplishment (Bandura, 2006). Belief in one's ability to do well is enhanced through task accomplishment and social support in the program, and thus, contributes to the planning, and achievement of future goals. Furthermore, a personal sense of accomplishment is the most powerful source of enhancing perceptions of personal efficacy. As an individual's mastery at an activity increases, so does self-efficacy (Bandura, 2006; Zimmerman & Kitsantas, 1996).

Self-efficacy also has a direct relationship to the challenge component of the wilderness programs. Participants are forced to "step out of their comfort zone"

through the challenge activities, such as rock climbing, expedition, and high ropes activities. Self-efficacy is enhanced through individual and group achievement, and once established, has been suggested to generalize to other situations in which performance was negatively affected by one's belief of personal inadequacy (Bandura, 2006; Bandura et al, 1977; Bandura et al, 1975). Thus, improvements in behavior functioning transfers not only to similar situations, but to activities and tasks that are distinctly different as well (Bandura, 1977).

In addition, according to social theory, the concepts of apprenticeship, guided participation, and participatory appropriation emphasize the interactions and arrangements in wilderness programs in which adolescents participate, and ultimately help develop the cognitive skills of the participants. The social interactions and involvement of activities by youth are dynamic, in which they engage in shared thinking and exchange of ideas, and variations of skill and status are likely to be important and rich in understanding (Rogoff, 1993). Adolescents appropriate from guided participation in systems of activity involving guidance, challenge, and opportunities for leadership in interactions with other people (Rogoff, 1993). The apprenticeship model emphasizes individuals will learn through participation in a community of like learners. Thus, a participant in a wilderness program will develop both social and cognitive skills by participating in a community of similar learners, or by participating with more skilled participants / leaders (Bandura, 1986; Russell & Farnum, 2004).

Wilderness Endeavors is based on an experiential learning model, through which self-efficacy, trust, and resilience are cultivated through challenge activities and

group cohesion. Along with exposure to challenge activities, Wilderness Endeavors aims to create a warm, supportive social environment for participants. In fact, social support has been distinguished as one of the strongest predictors of psychological resilience (Blum, 1998; Neill & Dias, 2001).

Many evidence based interventions have supported the focus on increasing resiliency to negative life stressors in youth (Biglan & Taylor 2000; Kumper & Alvarado, 2003). Research has shown that two mediators of anti-social behavior, lack of self regulation (Dishion, 2006) and executive function problems (Greenberg, 2006), are directly related to the development of resilience. Additional research has focused on resilience as a transactional process (Kumper & Summerhays, 2006). Kumper (1999) suggests that transactional processes, which are a set of responses to stress, should be discussed when designing intervention programs for youth. Kumper further explains that stressors should be reframed into challenge or growth activities, providing the stress levels are not too high (Luthar and Zigler, 1991); by encouraging youth to stretch themselves by setting challenging, yet achievable goals, and by stepping out of their comfort zone, as which occurs in the Wilderness Endeavors Program.

In conclusion, Wilderness Endeavors Program administrators understand the contexts of ecological systems in youth development. The majority of youth in the juvenile justice system have been brought up in corrosive or failed environments. To this, Wilderness Endeavors is adept at addressing these systems in programming. Specially, relapse prevention plans (RPP) are an outcome of the programs, and much time is spent in both individual and group work addressing what these systems will

look like, and how will they operate once the participant graduates. Resources are identified, aftercare plans are established, and personal goals are set forth. The home and community systems undoubtedly have the most emphasis in the individual's RPP. For example, the youth may have to identify new friends and a new social network. Or, the youth will have to figure out they are going "fit" into their neighborhood, and their schools. The family system (microsystem) is the most critical for these youth, and is heavily emphasized; in fact, the small group size that is typical with the Wilderness Endeavors Program closely resembles and acts as a nurturing microsystem for all participants. As well, many programs work with families while their child is in program; utilizing family circles near graduation to reunite family members, confirm relationships, and establish roles and expectations. Finally, the mesosystems and exosystems are also addressed in the individuals RPP. Specifically, how are all of these systems (school, probation, employment, family and peers) going to interact, and how will they support positive outcomes? How is the individual going to respond when faced with adversity at home? What is going to happen if the individual's parents get divorced, or faces unemployment? Although each individual's ecological systems are unique and complex, it is critical for the wilderness therapist or instructor to help the youth identify their systems, and most importantly, how can they influence change within it.

Concluding Statement

This theoretical section of the literature review clearly illuminates the congruency between ecological and social learning theory, and their application to the theoretical framework of the Wilderness Endeavors Program. Additionally, the

reciprocal relationships between self-efficacy, resilience and hope is well supported in this literature review, and this discussion has suggested how these constructs are nurtured in social and ecological contexts of the Wilderness Endeavors Program.

The Juvenile Justice System

Introduction

This next section explores the characteristics of youth in the juvenile justice system. In addition, a discussion on the environmental contexts of the lives of these youth, and how these environments contribute to juvenile to juvenile delinquency. Lastly, the characteristics and features of the current juvenile justice system are explored, suggesting that the current system is under resourced and overcrowded, and fails to address the developmental issues that plague youth in the juvenile justice system.

Characteristics of juvenile offenders

America's youth are increasingly becoming involved with high risk negative behaviors, such as gang involvement (Egley, 2000) alcohol and drug use, violence, and irresponsible sexual activity (Stevens & Griffen, 2001). Although juvenile arrests overall have declined 18% between 1994 to 2003 (Snyder & Sickmund, 2006), some offenses have shown a marked increase, especially from drug related offenses. For example, the number of drug related offenses in 2004 was 159% greater than in 1985 and 192% greater than in 1991 (Stahl 2008). Other offenses related to drug and alcohol offenses that have increased include driving under the influence (+33%), and

disorderly conduct (+13%) (U.S. Department of Justice, 2003). Alarmingly, between 1980 and 2004, the juvenile arrest rate for simple assault increased 106% for males and 290% for females (Snyder, 2006), and juvenile arrests for murder rose 3.4% in 2006 compared with 2005 arrest data. When considering robbery, arrests of juveniles increased 18.9% over the same 2-year period (U.S. Department of Justice, 2007). Additionally, with the ongoing changes occurring in the age structure of the U.S. population, the rates of juvenile crime is predicted to increase, with the current arrest rate of juveniles expecting to double by 2010 (as cited in Tarrolla, Wagner, Rabinowitz & Tubman 2002).

Other significant risk factors that affect the likelihood of youth entry into the juvenile justice system include involvement in gangs. Youth involvement in gangs is probably considered one of the highest negative risk activities that contribute to delinquency and offending behavior. Between 1980 and 1996, the U.S. experienced significant growth in youth gangs, when the number of cities and jurisdictions that reported gang problems rose from 286 to approximately 4,800 (National Youth Violence Prevention Resource Center, 2001). The likelihood of a youth being arrested while being involved with a gang has also increased dramatically. For example, compared with juveniles who did not have friends or families in gangs, those who did were at least three times more likely to report having engaged in vandalism, a major theft, a serious assault, carrying a handgun, and selling drugs (Snyder & Sickmund, 2006). Youth involved in gangs were also about three times more likely to use hard drugs and to run away from home (Snyder & Sickmund, 2006). The percentage of youth gangs that are considered drug gangs (i.e., organized specifically for the purpose

of trafficking in drugs) increased from 34 percent in 1998 to 40 percent in 1999 (Egley, 2000).

Once youth have entered the juvenile justice system, there are several characteristics they have in common, including ethnic minority status, anti-social behaviors, lack of social skills, negative peer groups, school failure, and family stress and/or dysfunction (Scott, Nelson, Liaupsin, Jolivette, Christie & Riney., 2002). Additionally, the literature also suggests that early alcohol and drug use, tobacco use, and irresponsible sexual activity are common factors among youth in the justice system (Leiber & Mawhorr, 1995; Pesta, Respress, Major, Arazan & Coxe, 2002; Scott et.al., 2002; Stevens & Griffin, 2001). The interaction of these factors makes effective rehabilitation programming extremely challenging. With a noted lack of resources available in the juvenile justice system, correctional programming has numerous challenges in trying to address these factors. This, coupled with the need for addressing substance use, violent behavior and especially mental health issues amongst incarcerated youth, juvenile justice planners are recognizing the need to offer comprehensive and alternative programming in facilities and communities (Latessa, 2004). Alarmingly, the prevalence of mental health disorders in the juvenile correctional facilities is high. Studies have revealed that as many as 63% of incarcerated adolescents meet the criteria for two or more psychiatric disorders, and as many as 78% of all adolescents in the juvenile detention system meet the criteria for substance abuse disorders (Abrantes, Hoffman & Anton, 2005).

The characteristics of juvenile offenders are well documented in the literature. However, the environmental factors that these young people are exposed to are of

equal importance in this discussion. The following discussion will focus on the environmental dynamics that nurture juvenile delinquency, as posited from ecological and social learning perspective.

The Ecology of Juvenile Delinquency

In 2007, there were 73.9 million children in the United States (U.S. Census Bureau, 2008). . Census reports also indicate that the percentage of children living in two parent households continue to fall, with as many as 32% of all children living with only one parent (U.S. Census Bureau, 2007). Alarmingly, as many as 18% of America's children live in poverty and of these, 32% live in single parent households (Annie E. Casey Foundation, 2006; Snyder & Sickmund, 2006). Other research has suggested that over 20% of all children in the U.S. live in poverty (UNICEF, 2005).

The literature has linked poverty to a number of negative outcomes for children, including poor parenting, high levels of parental conflict, maltreatment, neglect, broken homes, and weak social control networks (Shader, 2003). Evidence suggests that economic hardship and lack of opportunity and resources undermine marital and parental functioning, especially amongst families of color (Thornberry, Smith, Rivera, Huizinga & Stouthamer-Loeber, 1999). Furthermore, child abuse, maltreatment, and exposure to violence have a devastating impact on children's development, affecting emotional growth, cognitive development, physical health and school performance (Shader, 2003).

The connection between child maltreatment and juvenile delinquency is well supported in the literature (Herrenkohl, Herrenkohl & Egolf, 2003; Herrera & McCloskey, 2001; Kelley, Thornberry & Smith, 1997; Widom, 1989; Williams & Herrera, 2007). The likelihood of being arrested as a juvenile is 59% greater if the child is exposed to abuse and/or neglect (Williams & Herrera, 2007).Other research has suggested that 20% of abused children become delinquent before reaching adulthood (Wasserman, Ko & McReynolds, 2003). Furthermore, because many families that are abusive or neglectful often have a wide range of psycho-social problems, it is very important to understand child maltreatment from an ecological perspective. Child maltreatment is best understood as an unfolding sequence of problems, often manifested in the community, as well as within the family (Ryan & Testa, 2005). In 2006, there were 12 substantiated child maltreatment reports per 1,000 children (Office on Child Abuse and Neglect, 2003). However, this number is likely much higher, as many cases of abuse and/or neglect go unreported. A recent national study has found that 1 out 3 suspicious injuries on children goes unreported to Child Protection Services (Russo, 2008). Equally alarming to child abuse and neglect statistics are the increasing levels of exposure to violence that our young people are exposed to on a daily basis.

Childhood exposure to violence (CEV) has become a public health problem of tremendous proportions, and is pervasive in all of the individual's ecological systems. Without question, the developing child's microsystem is profoundly affected by violence. Current estimates indicate that as many as 10 million children per year may be witness to violence in the home or neighborhood, or are victims of violence. CEV

has been significantly linked to increases in depression, anxiety, anger, alcohol and drug abuse, and decreases in academic achievement (National Center for Children Exposed to Violence, 2008).

Each year, an estimated 3 to 10 million children witness assaults against a parent by their partner (NCCEV, 2008). Experiencing family violence can be especially traumatic for children, as these are the people they are attached to, and who care for them. For the majority of these children, parental violence interrupts the nurturing atmosphere of safety and care, creating an environment of uncertainty and helplessness. Children exposed to domestic violence, especially chronic exposure, are at risk for many difficulties, including depression, low self-esteem, and the regulation of emotions; aggression against family members, peers, and property, problems with attention, and school performance (NCCEV, 2008).

Community violence is so pervasive, especially in urban, low income neighborhoods. According to studies, over 75% of children in urban neighborhoods report having been exposed to violence in the community (Hill & Jones, 1997). Not surprisingly, Miller (1989) found that when comparing delinquent and non-delinquent youth, a history of family violence or abuse was the most significant difference between the two groups. Furthermore, current research points to a powerful connection between residing in an adverse environment (ie high levels of poverty and crime) and participating in criminal activity. (Shader, 2003).

Exposure to violence is not just limited to witnessing violent acts between people in the home and community, but the pervasive exposure of our children to

media violence can have a negatively profound effect on development. The influence of media violence on developing youth is controversial, but supporters of social learning theory posit that the influence of observational learning is powerful, and argue that media violence does have a significant impact on the developing child. The facts around television and media violence are alarming: 1) The American Academy of Pediatrics report that by age 18, the average American child will have viewed about 200,000 acts of violence simply from watching television; and 2) the results from the 2003 National Television Violence Study concluded that nearly 2 out of 3 television programs contain some form of violence, averaging about 6 violent acts per hour. (NCCEV, 2008). Other studies have concluded that this number is as high 25 violent acts per hour (Johnson, Cohen, Smailes, Kasen & Brook, 2002), 3) In 1999, the Kaiser Family Foundation concluded that the percentage of time that 2-7 year old children spend watching television unsupervised is 81, and 4) The average American youth spends, on average, 1,023 hours per year watching television (NCCEV, 2008).

Research has found that childhood neglect, growing up in an unsafe neighborhood, low family income, and low parental education were significantly associated with time spent watching television. In addition, research has also indicated that there are significant associations between television viewing during early adolescence and subsequent aggressive behaviors. (Hofferth & Sanberg, 2001; Johnson et al, 2002). This conclusion is certainly supported by social learning theory, and the relative power of observational learning. It has been shown that both children and adults acquire attitudes, emotional responses, and new behaviors through film and televised modeling (Bandura, 1977, p.39).

From social learning theory evolved social control theory and social disorganization theory (Bursik, 1988) the premier theories of juvenile delinquency in the 1980's. Although these theoretical perspectives have waned over time, most would agree that social learning theory is positioned well explaining child development issues relating to delinquent behavior. However, much of today's discussions on child development and delinquency are focused from an ecological perspective, and that the difficulties, or failures, of these systems are causing irreparable harm to developing youth. Of greatest concern are the early years of development, what Bronfenbrenner (1979) describes as the mother/child dyad, and the critical attachment that must occur between child and caregiver.

Bronfenbrenner (1979) describe this "attachment" as the primary ecological dyad for the developing child and mother. The quality of this dyad has been suggested to have implications for the acquisition of global self concepts, such as self-esteem, self-competence, and hope (Miller & Mangelsdorf, 2005). Parents who have a strong sense of parental efficacy contributes significantly to the quality of care, and also plays an important role in the developing child's emotional well being, social relations, and academic development (Bandura, 2006). Parents who have children characterized as having a difficult temperament or hyperactivity often have a weakened sense of parental efficacy. This endangers a healthy dyad, or attachment, and if not resolved, manifests significant behavioral problems as early as the preschool years, such as excessive withdrawal, poor relationships with peers and adults, emerging academic problems (Kelly et al, 1997) and a range of other psychosocial challenges that can affect development (Herrenkohl, et al, 2003).

The literature suggests from an ecological perspective that parental child rearing practices (Dunn & Mezzich, 2007), along with family structure (Snyder & Sickmund, 2006), are the best predictors of anti-social behavior and delinquency in youth (Wasserman, Keenan, Tremblay, Cole, Herrenkohl, Loeber et al 2003). Among the risk factors are poor supervision, parent uninvolvement, poor discipline, parent rejection, marital problems, parent absence, and poor parent health (Loeber, 1990). Three specific parental practices that have been associated with early conduct problems are; 1) high levels of parent-child conflict, 2) poor monitoring, and 3) low levels of positive, nurturing involvement (Wasserman et al, 2003). In addition, there is a significant body of literature that links parenting factors to delinquency; and also suggests that adolescents who are subject to inept parenting practices (such as nattering, authoritarian, or minimal explanation styles) tend to develop coercive interpersonal styles, poor social skills and often associate with deviant peers (Simons, Whitbeck, Conger & Conger, 1991). Without question, the greatest risk factors for delinquency lie within the child's microsystems.

As well, the development of problem solving skills, which are the responsibility of the individuals in the child's microsystem, is a critical developmental task that begins in the pre-school years, and continues through subsequent years (Kelly et al, 1997). The acquisition of several key developmental tasks, (along with problem solving skills), occur through child rearing. Though largely the responsibility of parents or caregivers, they are also the responsibility of the child's growing ecological "neighborhood". Unfortunately, unstable family environments and disruptions can often result in poorly developed social and problem solving skills in youth.

The composition of families is a critical aspect of family life that is consistently associated with delinquency. Single parent homes, disruptions due to divorce and separations have been shown to be correlated with a range of emotional and behavioral problems in youth, including delinquency (Thornberry et al, 1999). Family disruption ultimately results in negative outcomes for children, and the increase in the number of disruptions has been suggested to be associated with a decline in positive parent-child relationships, as well as a decline in child attachment to other family members (Herrenkohl, Herrenkohl & Egolf, 2003) This can lead to an increase in the vulnerability of pressure toward antisocial peers, an increase in family conflict as the number of disruptions increase, a decline in adequate parenting due to increased stress on parents, a compromise of the child's sense of control over his/her environment, and of the child's emerging capability to regulate emotions and reactions, and underlying depression, grief, fear and anger which become manifested in behavioral problems (Herrenkohl et al, 2003).

It is no surprise that stressful ecological transitions can impede the healthy development of children. Bronfenbrenner (1979) described an ecological transition occurring "whenever a person's position in the ecological environment is altered as a result of a change in role, setting, or both." Furthermore, Cohen, Kessler & Gordon (1995) defined stress as "all of the environmental circumstances or conditions that threaten, challenge, exceed, or harm the psychological or biological capacities of the individual." Increasingly, substantial numbers of children are faced with stressful experiences, such as trauma (e.g. abuse / neglect, natural or human disasters, exposure to family and/or neighborhood violence), chronic strain and adversity (e.g. poverty,

economic stress, family adversity), cumulative life events (e.g. school transitions), as well as normative events (e.g. death of a family member, peer) (Grant, Compas, Stuhlmacher, Thurm, McMahon & Halpert 2003). Clearly, understanding the role of life stressors in youth has theoretical importance. Models of child and adolescent psychopathology recognize the role of life stressors in the etiology and continuation of both internalizing and externalizing disorders in youth (Rutter, 1989). Furthermore, negative environmental stressors (e.g. neighborhood disorganization and poverty), cumulative and normative stressors, combined with poor parenting behaviors has long been associated with adolescent psychopathology, aggression, anti-social behaviors, delinquency (Compas, Hinden & Gerhardt, 1995), resulting in a developmental trajectory that is bound for the juvenile and criminal justice systems.

Other risk factors that have been associated with juvenile delinquency are psychological and mental characteristics. For example, low IQ and delayed language development have both been linked to delinquency; even after controlling for race and class. Associated risk factors include hyperactivity, peer rejection, and being born to a teen age mother (Shader, 2003). In addition, at the exosystem level of the child's ecological world, are school policies. These policies, such as grade retention, suspension and expulsion, and the school's tracking of juvenile delinquency, disproportionately affect minorities, and have negative consequences for these young people (Shader, 2003). Finally, the literature consistently supports a correlation between delinquent behavior and delinquent friends. Research has suggested that the number of delinquent friends a youth has is the best external predictor of that individual's delinquent and criminal behavior (Verrill, 2008, p21.). Clearly, these

differential associations can be powerful predictors of delinquency and involvement in the juvenile justice system.

Protective factors to mediate stressful life events include the healthy development of social skills and social competence. Research has demonstrated that social competence plays a protective role from childhood to late adolescence, especially in the areas of academic achievement and the development of pro-social behaviors (Masten, Hubbard, Gest, Tellegen Garmezy & Ramirez, 1999). Furthermore, early attachment to parents or caregivers is correlated with the development of social competence, social support network, and peer competence (Bost, Vaughn, Washington, Gielinski & Bradbard, 1998). In addition, empirical evidence has demonstrated that high levels of conflict/coercion are closely associated with high levels of anti-social behaviors, and low levels of social competence (Criss & Shaw, 2005). Clearly, youth who are involved in the juvenile justice system are without a healthy ecological framework and the nurturing dyads necessary for the development of social competence. Research has shown that deficits in social skills and social competence during childhood and adolescence result in vulnerability to early onset drug use and other negative outcomes, such as school failure, and criminal behavior (Dunn & Mezzich, 2007).

Beyond the primary ecological factors necessary for healthy child and adolescent development are the secondary systems, such as communities, agencies, and the sociocultural norms and values. Neighborhood factors, such as crime, violence, lack of health care, and a lack of jobs and youth programs all contribute negative outcomes for youth development. These negative factors inhibit positive

development of youth who are expected to thrive in these environments, and places them at greater risk for delinquency and anti-social behaviors (Ginwright & James, 2002). Furthermore, the changing landscapes of communities also put youth at greater risk for delinquency. Past research has shown that changes in ecological structure, such as declining economic status, and increases in non-white populations were both associated independently with an increase in juvenile delinquency (Taylor & Covington, 1988). More recently, the change in ethnic demographics of neighborhoods has been associated with community or social disorganization. According to social disorganization theory, communities are unable to realize and embrace the common values of their residents, and lack the ability to solve common neighborhood problems because they cannot establish or maintain consensus concerning values, norms, or roles (Rose & Clear, 1998). From an ecological perspective, it is relatively easy to understand how the social, political, and economic frameworks of communities play an important role in child and adolescent development.

Youth in the juvenile justice system clearly have a number of challenges that impede healthy development. Once in the justice system, the outcomes for positive development remain bleak at best, due to overcrowded facilities, lack of resources (for both child and family), and many other sociopolitical and cultural factors that plague the juvenile justice system. Juvenile justice interventions should be situated in the developmental needs of young offenders.

Next, a discussion of the relevant literature concerning the status of the juvenile justice system is warranted. The intention is not to portray the justice system

in a negative light, but rather, to highlight a call for alternative interventions, especially those programs that target young offenders before they become entrenched in the juvenile justice system.

Current state of the juvenile correctional system

Overcrowded and ineffective programs are plaguing our nation's juvenile correctional facilities. This, coupled with increases in juvenile offender populations and increasing recidivism rates, strains the resources of correctional facilities. Over the past 15 years, detention and confinement facilities have become increasingly overcrowded. Between 1990 and 1999, the number of adjudicated cases resulting in out-of-home placement has increased 24%, from 124,900 in 1990 to 155,200 in 1999 (Puzzanchera, 2003). Studies have shown that more than 75% of incarcerated youth are confined in overcrowded correctional facilities (Coalition for Juvenile Justice, 1999) with 39% of all facilities having more juveniles than available bed space (Sickmund, 2002). This forces facility staff to increase their focus on managing admissions and releases, at the expense of program facilitation and delivery. Crowding can create instability in terms of facility management, and it is detrimental to the rehabilitation and treatment of the youth who are confined. With the high incidence of juveniles with diagnosable mental health problems, and with up to 19% of them being suicidal, timely, effective treatments are very difficult to access in crowded facilities (Wasserman, Ko, and McReynolds, 2004). Consequently, many of these young people with learning or mental disorders often are not diagnosed, and therefore, they do not receive treatment (National Council on Disability, 2003).

The use of incarceration for juvenile offenders has been increasing over the past decade. With limited facilities, juveniles determined to be at low risk to reoffend are mixed in with high risk individuals. Both groups are typically handled the same way during incarceration and aftercare, regardless of their risk of reoffending. Thus, it comes as no surprise that many juvenile correctional facilities are little more than revolving doors for the juvenile residents (Harris, 1999).

Problems with juvenile correctional facilities can be linked to four challenges that they face. First, it is very difficult to successfully treat juveniles in facilities that are overcrowded. Secondly, institutions operate like closed, self contained social systems. Communities are eager to get the juvenile offender out of the community, and sent away for punishment and treatment. Therefore, prosocial supports in the community are not cultivated, and the juveniles often return either less capable of functioning autonomously, or they are more attached to their deviant peers and patterns. (Altschuler, 1984; Whittaker, 1979). Thirdly, large, lock down facilities fall prey to an institutional culture which measures success on compliance with rules and regulations, as well as program progress. They have little or no investment in the offender once they leave the facility. Without a comprehensive aftercare plan to follow up and reinforce facility treatment objectives, progress is often short lived. Fourth, the complexity and fragmentation of the juvenile justice system makes successful community reintegration very difficult. The division of authority and responsibility is dispersed among state and local levels of government, often with conflicting organizational interests, as well as diverse professional orientations (Harris, 1999)

Overcrowding of facilities is undoubtedly the major problem plaguing the juvenile justice system, which certainly impacts successful community reintegration, and continued criminal activity. The large majority of youth in this country are confined in facilities that house anywhere between 100-500 youth. Research has found that in these facilities, recidivism (rearrested within 1-2 years after release) is anywhere between 50-70% (Weibush, Wagner, McNutly, Wang & Le. 2005; Krisberg, 1997; Winner, Lanza-Kaduce, Bishop & Frazier. 1997; Fagan, 1996). Other research has found that up to two thirds of adolescents released from facilities will be rearrested, and up to one third will be re-incarcerated within a few years after they are released (as cited in Mears & Travis, 2004).

Thus, it should come as no surprise that juvenile justice administrators are looking for alternative diversions from traditional detention and confinement placements, especially considering the increase in youth violence and substance abuse (Austin, Johnson & Weitzer 2005; Latessa, 2004; Wolford, 2000; Koehler & Linder, 1992). Programs that recognize the developmental challenges of adolescence, and adopt strengths-based approaches to program content can provide a suitable alternative to traditional, punitive-based detention, and can additionally provide a successful diversion for youth who are first time offenders and at risk for deepening involvement in the juvenile justice system. Furthermore, we need programs that incorporate juvenile justice best practices, developmental theory, and elements of wilderness and adventure programs. Consider that adolescence is a time characterized by risk-taking (Winters, 2007) all juvenile offender programming should include outlets for positive, healthy risk opportunities.

The final discussion in this section focuses on recidivism, the most common and accepted outcome measure for both juvenile and adult correctional programs. In spite of this, there is significant controversy in the use of recidivism as an outcome measure. The review of the literature will illustrate the challenges, as well as the relative advantages, of using recidivism as an outcome measure in program evaluation.

Recidivism

Introduction. The most frequently asked question about the release of offenders from correctional facilities is whether or not the individual recidivated. Recidivism has long been the outcome measure for evaluating criminal and juvenile justice policy. This discussion will address the strengths of using recidivism as a measure, but will largely focus on the challenges that policy makers, researchers, and stakeholders face when using only recidivism as an outcome measure.

Measuring recidivism. There are several ways in which to measure recidivism, and no single measure is without its unique disadvantage. The three most common measures for recidivism are re-arrest, re-conviction and a supervision revocation (U.S. Sentencing Commission, 2004). However, the most common measure, specifically in the world of criminal justice, is re-conviction. Using this as a measure, there are two specific advantages. First, it clearly identifies that there is an appearance in court and a plea or finding of guilt is a direct result. Second, a definition of re-conviction includes the full range of crimes from least to most serious (Bonta, Rugge, & Dauvergne, 2003). Furthermore, the use of re-conviction as the primary definition is a more reliable and valid measure for the individual's probability of re-offending, due to

its high association with actually re-offending (Spohn & Holleran, 2002). The other two definitions or measures (re-arrest and a supervision revocation) are difficult to distinguish, thus research findings using these definitions result in nearly identical conclusions (U.S. Sentencing Commission, 2004).

Advantages of using recidivism as an outcome measure. Accepting recidivism as a measure does not come without much criticism or difficulty in defining or measurement. Unfortunately, problems related to the measurement of recidivism are common with outcome measurements of all social phenomena. Even so, recidivism can be a useful measure of rehabilitation programs, as a primary measure, or in conjunction with other measures (Maltz, 1984). Empirical and theoretical studies of offender behavior use recidivism as a measure (Chaiken & Chaiken, 1982). Recidivism can also be utilized to answer specific questions in relation to the termination of criminal activity: For example, is there a certain age when most offenders cease to engage in criminal activity? Does it vary by offender characteristics? By other factors? (Maltz, 1984).

An important use of recidivism analysis is to examine the characteristics of offenders (Maltz, 1984; Tinklenberg & Steiner 1996). In fact, empirically based assessment instruments used to predict risk and recidivism have relied on the exclusive use of recidivism as an outcome measure, such as the Youth Level of Service / Case Management Inventory (YLS/CMI) for juveniles, and the Level of Service Inventory-Revised (LSI-R) for adults. The YLS/CMI has been found to have good predictive validity in both males and females (Schmidt, Hoge & Gomes, 2005) as does the LSI-R for adults (Andrews & Bonta, 1995).

The use of empirically based risk assessments are useful in the prediction of recidivism in individuals, and targeting appropriate interventions for them (Lowenkamp & Latessa, 2005). Standardized instruments for adult offenders continue to be actively studied, however, little attention has been given to such assessments for juveniles (as cited in Schmidt, Hoge & Gomes, 2005). Consider that it costs, on average, upwards of $60,000 per year to incarcerate a youth; there are obvious advantages to identifying and targeting services toward high risk individuals (Krysik & Lecroy, 2002)., and therefore, attention should be directed to creating and evaluating empirically based risk assessments.

There are significant inconsistencies among recidivism studies that seriously limit their use for comparison across other studies, agencies, states or programs. Undoubtedly, most would agree that the most significant problem is the lack of a consistent operational definition of recidivism. Besides the three measures discussed previously, other definitions for recidivism include, re-arraignment and re-incarceration. This is further confounded in the juvenile justice system; where state and county jurisdictions tend to operate independently; with each adopting their own definition of recidivism, such as a new probation case, a probation violation, a delinquent complaint (Krysik & Lecroy, 2002), and even re-commitment. Although most studies of state correctional facilities and detention centers define recidivism as re-incarceration, many private facilities and community based programs define recidivism as re-arrest, others reconviction. Cleary, there is no shared common definition, or measure, of recidivism. Petersilia (as quoted in Gehring, 2002) identifies the concerns with the use of recidivism as an outcome measure succinctly:

> Despite the recognized importance of recidivism for criminal justice policy and practice, it is difficult to measure because there is no uniformly accepted definition for the term….What has resulted is a research literature that contains vastly different conventions – different outcomes, different time periods, and different methodologies. Thus recidivism data reported in one study are seldom comparable to the data in another (p.197).

Thus, unclear definitions, and a diverse array of statistics is confusing, and worse yet, creates public policies that quickly lose the confidence of taxpayers (Wicklund, 2005). Many programs over the years have been accepted or rejected based upon unclear, inconsistent definitions of recidivism, which in turn, resulted in the use of inappropriate methodologies and statistical techniques (Malz, 1984). Additionally, as a dichotomous event (recidivate / not recidivate), it does not take into account the severity or frequency of the continued offending (Freindship, Beech & Browne, 2002). Nonetheless, recidivism has been the "standard" for measuring correctional effectiveness, in both the criminal and juvenile justice systems. Very little attention has been devoted to conceptualizing the effectiveness of sentencing policies (and programs) that go beyond the ideological boundaries of recidivism rates (Singer, 1996; Bazemore & Umbreit, 1995; Fagan, 1996).

Sentencing policies that are dictated by recidivism studies alone fail to examine the more salient aspects of why individuals continue to engage in criminal activities. For example, policy makers need to examine which measures are appropriate for specific offenders, and ensure that the correct measures are used in practice (Nutley & Davies, 1999). Unfortunately, the lack of a research culture in the

criminal justice world has resulted in a lack of attention to studying the effectiveness of a wide variety of interventions. This, coupled with "real world" confounds such as social class, ethnic background, gender, lack of access to mental health care (Wasserman et al, 2004; National Council on Disability, 2003), differences in public altitudes, and the variation and quality of placement opportunities (Jacobs, Aronson & Nystrom, 1983; Tilbury, 2006) has resulted in a "one size fits all" approach to addressing criminal offending behavior; making it extremely challenging to measure performance of policies and correctional programs.

Performance measurement is part of a growing culture in government, and is largely driven by the need to control expenditures, and demonstrate to taxpayers "good government management" (Sanderson, 1998). However, measuring the effectiveness of public policy are reliant on how social problems, such as crime, are conceptualized, and what resources are allocated (Martin & Kettner, 1997). To elaborate, the goal of the criminal justice system is to keep citizens out of jails and prisons. But the justice system has a much broader goal of improving the lives of offenders, and making them productive citizens in their communities. However, if the dominant policy approach is to reduce criminal recidivism, then the performance indicators chosen to evaluate success are likely to be much different than if the prevalent philosophy is making productive , healthy, citizens out of criminal offenders. Therefore, these divergent views are value based, and by no means clear, and are further influenced by changing social conditions and community expectations (Tilbury, 2006).

Conclusion. Sadly, when a program is evaluated solely on recidivism (failure) as an outcome, this can send a strong value-laden statement to practitioners and

researchers. If attention is directed toward a program only when participants fail, what happens to the report on the follow up with participants who succeed?. This certainly can create a subtle bias within the program evaluators (Maltz, 1984).

Although there are some advantages to using recidivism as an outcome measure, most would agree that it should not be used alone. Evaluators of correctional programs should employ a strengths-based approach (successes vs. failure), and more importantly, devote the time and resources to evaluate the characteristics of successful clients. Perhaps combining a strengths-based and cost benefit approach to program evaluation may offer more useful information to practitioners?

The reality is, though, that recidivism as an outcome measure is here to stay. Policy makers, practitioners, and evaluators must agree on a common definition and measurement for recidivism, *especially* in the juvenile justice system. Muddy and inconsistent definitions will only contaminate conclusions reached in program evaluations. As such, there is no national recidivism rate for juveniles, since such a rate would be meaningless due to the variation of juvenile justice systems across states, and the manner in which each state evaluates juvenile recidivism (OJJDP, 2006). Some states, including Minnesota, do not measure juvenile recidivism statewide, only program specific (Pullen, Greenfield, Chobotov, Anchors, Gangal, et al, 2005). Additionally, most states that track juvenile recidivism of probation placements do so at twelve (12) and twenty four (24) month intervals, so for this study, it would be meaningless to compare recidivism rates of Wilderness Endeavors Program participants to any other published study.

Wilderness Programs in the Juvenile Justice System

Introduction

This next section explores the efficacy of the Wilderness Endeavors program in the context of juvenile justice best practices, and the "what works" paradigm of treating juvenile offending behavior. Wilderness programs have often been portrayed in the literature as being founded on a "getting back to nature theory", and lacking evidence based programming (Latessa 2004; Latessa et al, 2002). This researcher proposes that the Wilderness Endeavors Program is based upon best practices, especially considering the program is embodied as part of a state correctional program in Minnesota. A discussion of the relevant literature on the evaluation of wilderness and adventure programs serving juvenile offenders concludes this section.

Best Practices, Positive Youth Development, and Wilderness Endeavors

The literature has clearly illustrated the need for best practices in programming for juvenile offenders (Sukhodolsky, & Ruchkin, 2006; Latessa, Cullen & Gendreau, 2002; Latessa, 2004; Barton, 2004; Cullen & Gendreau, 2001; Lipsey, Wilson & Cothern, 2000; Mendel, 2000; Greenwood, 1996). Unfortunately, our models of best practice are obscured from developmental psychology, and tend to view adolescence as a period fraught with hazards and problems. This problem / deficit centered vision of youth has dominated most of the professional fields; viewing our young people as problems rather than as resources (Damon, 2004). Recently, an emerging strengths-based model of Positive Youth Development (PYD), which views youth as resources

to be developed, has been gaining momentum with policy makers, and youth serving professionals (Lerner, Almerigi, Theokas & Lerner, 2005).

The field of PYD is focused on the tenants that each and every child has unique talents, strengths, interests, and future potential (Damon, 2004). Subsequently, the goals of any program that focus on the PYD model help youth to navigate adolescence in healthy, positive ways, and assist them in preparing for the future (Roth & Brooks-Gunn, 2003). The critical philosophical framework behind PYD posits that youth learn new skills (problem solving, social skills, decision making, etc.) through actual experience (Roth & Brooks-Gunn, 2003). Thus, the overarching goal of PYD is to recognize the existence of adversity and developmental challenges in youth, and to educate and engage children in productive activities rather than at focusing on correcting, curing, or treating them for maladaptive behaviors, or so-called disabilities (Damon, 2004).

PYD has had a complex history with a juvenile justice system that sways like a pendulum from punishment to rehabilitation. The 20th century justice system has sought to save our children, nurture our children, "fix and cure" our children, punish our children, and isolate our children. Perhaps in light of all of these philosophies, this could provide a suitable launching platform for PYD. Unfortunately, our formal juvenile system is incompatible with the tenants of PYD due to conflicting goals and initiatives (Schwartz, 2000). And even more tragic, PYD and its application in the juvenile justice system is getting obscured by the rise in youth violence, and the increase of youth commitments to adult courts (Reppucci, 1999).

But there is hope for the future. Beginning in the mid 1990's, several states, such as Oregon, Maryland and Minnesota, adopted a balanced approach in juvenile justice. Included in the philosophical vision in a balance approach to addressing juvenile offending behavior is *competency development* and *restorative justice*. There is probably no greater wedge for PYD in the formal juvenile justice system than these two tenets (Schwartz, 2000).

For example, programs, such as Wilderness Endeavors, that embrace best practices and PYD, are promising interventions for young people from the most disadvantaged backgrounds, and those with the most troubled histories (Damon, 2004). Furthermore, there is an emerging literature that suggests the tenets of PYD are more applicable for intervention programs designed to help first time offenders, or individuals who are "at risk" of entering the juvenile justice system, rather than those who are already heavily involved in the system itself (Schwartz, 2000).

Thistledew Programs operates all of their programming under what has been termed the "responsivity principle," which refers to delivering custody programs in a way that is consistent with the needs of young offenders (Andrews & Bonta, 1998). This principle reflects positive youth development (Catalano, Berglund, Ryan, Lonczak, & Hawkins, 2004) in that it recognizes youth potential and utilizes behavioral, social, and cognitive strategies that develop pro-social behaviors in young offenders. Wilderness Endeavors is one of hundreds of wilderness experience programs designed to treat problem behaviors in youth, substance abuse and anti-social behavior that have been reported in the literature and have been in operation in the United States since Outward Bound arrived in the 1960's (Russell, 2006).

The Thistledew Camp Task Force (2002) appears to support the literature in their evaluation of Thistledew Camp. The task force was authorized by the State of Minnesota to examine the current status of the program, and to make future recommendations. The task force refers to Thistledew Program as the "Northern Minnesota Correctional Model", and should be given the highest priority for support by the Minnesota Department of Corrections. The Task Force (2002) had this to say about Thistledew Camp:

> It needs to be stressed that Thistledew is a unique program that is based on use of best practices and restorative justice. This creates a scenario where Thistledew should be used as a model for use of best practices, restorative justice principles, education programming, and adventure therapy. It must also be noted that the Wilderness Endeavors Program is entirely unique as a placement option in Minnesota. No other program provides this combination of accountability, adventure therapy, and goal setting for youth at risk. This is an early intervention option that is very successful (p.11).

Recidivism Studies on Wilderness Programs

It is important to conclude this literature review with an examination of the relevant literature surrounding evaluations of wilderness / challenge programs for juvenile offenders. There is a paucity of research on wilderness programs that serve adjudicated youth, and most studies have been plagued by a lack of rigorous methodologies (i.e., random assignment), lack of comparison groups, small convenience samples sizes, weak outcome measures, and absence of a theoretical framework (Cason & Gillis, 1994; Wilson & Lipsey, 2000). The following is a review

of eleven different program evaluations / meta-analyses of wilderness and adventure programs that serve young offenders.

Kelly & Baer (1968) conducted a two year study of Outward Bound Schools to examine the effectiveness of a brief wilderness challenge experience as an alternative to institutionalization for juvenile offenders. This matched-pair design of sixty juveniles were distributed to four different Outward Bound programs, and sixty others served as the control group, and were handled in a routine manner by the juvenile correction authority. Recidivism was tracked two years post treatment. Kelly and Baer suggested that the Outward Bound experience was an effective treatment modality for some juvenile offenders, but not all. In general, they concluded, that Outward Bound is a desirable short term alternative to traditional institutional care, and is an effective means of promoting positive change.

Winterdyk & Roesch (1982) evaluated the Canadian 21-day program *Accepting Challenge Through Interaction with Others and Nature* (ACTION). Participants were sixty adjudicated males between the ages 13-16. All participants were either juveniles who committed minor offenses, or first time offenders. Half of the participants were randomly selected to participate in the ACTION program, and the other thirty served as the control group. The authors reported in their statistical analysis that there was not conclusive evidence to support the primary proposition that the ACTION program could serve as a viable alternative to probation. However, they did conclude that there were short term effects on the probationers, and that those involved in the ACTION program experienced something more positive and beneficial

than controls. They also noted that treatment effects faded at the 4 to 6 month follow-up period.

Sveen (1983) conducted a pilot study of Project Hahn, an Australian based wilderness adventure program that integrates both juvenile offenders and non-offenders. The author's findings, although preliminary, suggest that Project Hahn creates an environment for personal growth, and attains positive change in individuals. Preliminary data on recidivism also suggests that at least 50% of the offender participants did not engage in delinquent behavior two years following the completion of the course. However, it must be emphasized that this was a pilot study that only examined recidivism via a statistical survey of past participants. It is also important to note that Project Hahn screens participants, and only accepts individuals with the greatest commitment to change.

Wright (1983) evaluated the effects of an adapted 26 day Outward Bound program on delinquent youth. The study specifically examined the effects of the program on participant's self-esteem, self-efficacy, locus of control, fitness, and problem solving (coping) skills. Individuals were randomly assigned to either the treatment group (n=35), or the comparison group (n=12). Wright concluded that the most important finding of the study was that the program is a viable alternative for making a positive impact in the delinquent youth's self-esteem, willingness to accept responsibility for behavior, and in self-efficacy.

Greenwood and Turner (1987) evaluated the California based VisionQuest Program with support from the Office of Juvenile Justice and Delinquency Prevention

(OJJDP). VisionQuest, a one year program, conduct impact programs that consisted of the use of wilderness camps, wagon trains, and extended sailing and bicycling. All programs emphasize the use of physical conditioning, taking responsibility for one's own actions, and overcoming personal and physical challenges (quests). Recidivism data was collected on 90 male graduates of the VisionQuest program, and compared with 257 juvenile males who were placed in a San Diego probation camp. The average length of stay in the VisionQuest program was 398 days, and 111 days for the work camp (controls). Greenwood and Turner concluded that VisionQuest graduates had fewer arrests (55% re-arrest rate) than graduates of the probation camp (71% re-arrest rate), even though the latter had less serious criminal offenses on their records.

Castellano and Soderstrom (1992) conducted a matched group quasi-experimental design study to assess the effects of the Spectrum Wilderness Program on juvenile probationers. The sample (n=30) was chosen from only one jurisdiction, thus weakening the external validity of the study. The matched control group (n=30) was randomly selected from a list of juveniles supervised by the same probation jurisdiction. Although the overall findings were mixed and inconsistent, the authors concluded that wilderness challenge programs appear to be a promising alternative to traditional juvenile justice dispositions. It is also important to note that participants in this study, like many other studies, experienced a "fading effect", in which salient program impacts appear to have decayed after one year.

Harris, Mealy, Matthews, Lucas & Moczygemba (1993) provides an overview of the use of challenge programs, with a particular focus on the APPEL program, which serves adult probationers. Although their research focused on adult

populations, Harris et al identified salient program components that produce positive outcomes for APPEL program participants. Their conclusions, which are often supported in the literature for juvenile offenders, include; 1) Challenge courses provide a learning by discovery experience, 2) Challenge programs are "therapy in disguise", so these approaches can be highly effective for individuals who are typically resistant with other kinds of correctional counseling, 3) Challenge courses are more effective at stimulating participants feelings, a phenomenon which can be credited to the collective use of physical, affective, and cognitive domains.

Wislon & Lipsey (2000), in their meta-analysis of wilderness programs (N=22), examined the effects of these programs on delinquent behavior. The overall mean effect size for delinquency outcomes was 0.18, equivalent to a rate of recidivism of 29% for program participants vs. 37% for individuals assigned to other correctional dispositions. They concluded that program length was not related to outcomes; however, programs that had high-intense activities or had a therapeutic component to their program produced the most significant reductions in delinquent behavior. The moderately positive results suggest that wilderness challenge programs are an effective intervention for delinquent youth.

Deschenes & Greenwood (1998) evaluated the Nokomis Challenge Program, a correctional program designed specifically for low and medium risk offenders. The program is a combination of three months of residential and challenge programming, followed up with a nine month community based aftercare component. The evaluation used a quasi-experimental design comprised of a treatment group (n=97), and a control group (n=95) who were similar in comparison, and placed in a training school

or private residential program. Pre and post testing measured outcomes in social adjustment; such as adaptive coping skills, family functioning, and self esteem. Follow up at 2 years post treatment was conducted to assess salient program components via participant interview, and to evaluate recidivism. Results indicated that only 40% of Nokomis participants completed the 12 month program; with most of these participants failing to complete the community based aftercare program (due to being placed in other types of custodial placements), compared to an 84% completion rate for the comparison group. The authors concluded through their analysis that the Nokomis program was nearly equally effective as longer term residential programs in providing improvements in social adjustment, but these effects disappeared by the end of the follow up period. This study had some significant limitations; 1) The treatment group was much younger at age of first arrest, and had significantly more prior arrests than those in the control group, and 2) This study cannot be generalized to the population, as it was limited to one experimental program in one specific jurisdiction.

Jones, Lowe, & Risler (2004) examined a sample (n=35) of adolescents who participated in wilderness therapy programs compared to subjects (n=11) who participated in residential group homes. The overall conclusion of the study is that there was no significance difference in recidivism rates for the two groups. Significant limitations plague this study; 1) The small sample sizes likely impacted the study's ability to detect significant differences, and 2) Problems with the juvenile justice data base may have not accurately recorded the participant's offense history. Nonetheless, the authors suggest that the methodology that was used in the study show

promise in providing insight into the effectiveness of wilderness based programs for juvenile offenders.

Finally, Russell (2006) evaluated the 120 day Wendigo Lakes Expedition (WLE) program for young offenders. The exploratory study sought to examine processes and outcomes of the program. Due to the small sample size (N=57) , the study was not intended to be an exhaustive assessment of outcomes, but rather to evaluate the unique approaches in the WLE programming, and to assess perceptions and attitudes of young offenders in the pursuit of identifying potential outcomes from this type of program. Parents and probation officers were contacted 16 months post treatment to assess recidivism. Of the 40 youth who had completed the Youth Outcome Questionnaire (Y-OQ), 52.5% had been charged with a new offense, and 47.5% had not. Undoubtedly the most important outcome of this study is the suggestion that wilderness programs that adopt a strengths-based, positive youth development philosophy in their programming are the most effective for helping troubled youth make positive change in their lives.

In conclusion, the paucity of research in wilderness programs over the past 40 years for adjudicated youth clearly reiterates the same limitations, and resonates the need for continued research. Critical to future research studies are sound designs coupled with empirical data that have strong external validity, which will allow generalizations across populations (Russell, 2006; Jones et al, 2004). Studies need to be more rigorous, and utilize randomly selected control groups with equivalent individuals (Castellano & Soderstrom, 1992) , and samples need to be of a sufficient size (Russell, 2006; Wilson & Lipsey, 2000; Deschenes & Greenwood, 1998). Others

have suggested the need for studies to show definitive results linking adventure programming to the cessation of problematic internalizing and externalizing behaviors among adolescents (Davis-Berman & Berman, 1999; Ungar, Dumond & McDonald, 2005). As well, recidivism measures must also be more stratified and robust, and follow up periods need to be longer in duration (Castellano & Soderstrom, 1992).

Summary

Wilderness and adventure programs have often been characterized in the criminological literature as lacking a theoretical foundation, or being based on such ludicrous concepts such as a "getting back to nature" theory of rehabilitation. In the review of the literature, this researcher has empirically positioned the Wilderness Endeavors Program to be grounded in the developmental theories of social learning, and the ecological theory of human development. Furthermore, these theoretical frameworks are empirically grounded in the salient developmental constructs of self-efficacy, resilience and hope, and are embodied in experientially based program components of the Wilderness Endeavors Program. In addition to cornerstone child development theory, the Wilderness Endeavors Program is framed on the adventure programming philosophies of Kurt Hahn and Michael Gass. These models are supported in the literature, and are illuminated by an understanding of the social and ecological foundations of human development.

This review of the literature also addressed characteristics of juvenile offenders from a social and ecological context. Furthermore, this researcher found it necessary to elucidate the current state of the juvenile justice system, revealing to the reader the

issues and problems with the current system, and stimulating a re-thinking of how we address the behaviors of young offenders. The literature makes clear that the current system is overcrowded, understaffed, and largely ineffective. Juvenile justice programs need to be designed and delivered with the developmental needs of young people in mind, and be guided on best practices. This review of the literature positioned the Wilderness Endeavors Program in the scope of both developmentally appropriate programming, and correctional best practices, especially considering the program is situated in a Minnesota state correctional facility

Recidivism, the outcome variable in this present study, also warranted a thorough discussion. The difficulties and challenges of using recidivism as a measurement in research were discussed, and the current study embodies many of these same challenges (see the discussion on recidivism in Chapter 3). Finally, a review of the relevant literature on measuring outcomes of juvenile offenders who participate in wilderness and adventure programs was warranted. Previous studies clearly illuminate the challenges and problems of doing research, and measuring outcomes, of this population.

CHAPTER 3 – METHODOLOGY

The purpose of this research project was to assess the effectiveness of the Wilderness Endeavors Program as a treatment modality in addressing juvenile offending behaviors. Additionally, this project sought to examine the treatment effects of the Wilderness Endeavors Program on recidivism as compared to a non-randomized control group of juvenile offenders with similar demographic characteristics. Due to the purpose of this study, and nature of the research questions posited in Chapter 1, a quantitative approach was utilized in this project.

Research Design

A quantitative approach was appropriate for the evaluation of treatment effects and outcomes of the Wilderness Endeavors Program. One of the primary objectives of this research was to measure and evaluate relationships between variables, which is the ultimate goal of quantitative research. Quantitative methods also allowed this researcher to explore "cause and effects" via the logic of deductive reasoning (Denzin & Lincoln, 1994). . Quantitative approaches are also more robust when testing theories or hypotheses through structured instruments that produce statistical data (Riddick & Russell, 2008). Additionally, quantitative approaches are the standard for experimental design studies, often the method chosen for youth program evaluations. Through the use of experiments, one of the fundamental objectives for using a quantitative approach is the ability to generalize conclusions across multiple populations. Additional strengths of using a quantitative approach include; 1) it is often less time consuming, and not nearly as expensive as other methodologies, especially

considering the time constraints and limited funding of this project, 2) the research results (effect size, statistical significance) are independent of this researcher, and 3) the research design can eliminate the confounding effect of many variables, thus lending increased credibility to cause and effect (Johnson & Onwuegbuzie, 2004).

Undoubtedly, the main advantage of utilizing quantitative techniques and indicators in this project are parsimony, precision, and ease of analysis. When key elements or variables can be quantified with reliability and validity, and where necessary statistical assumptions can be met, then statistical conclusions can be powerful and succinct (Patton, 2002). The logic behind this approach is that critical outcomes and processes can be represented by key explanatory variables, and that these variables can be quantified, and that the relationships amongst these variables can best be explained or portrayed statistically (Patton, 2002).

The specific research design to address the questions presented in this study is best described as a quasi experimental, matched-pair design using pre-, post-, and follow-up assessments with a non-randomized control group (Gall, Gall & Borg, 2004). All participants in the Wilderness Endeavors Program between June 2008 and May 2009 were considered potential study participants. The admissions and screening criteria process followed by Thistledew staff was utilized by the researcher to develop the sampling frame. Typical reasons for exclusion to the program include history of suicide ideation or attempts, history of fleeing programs, serious mental illness, a history of serious violence, or a history of arson. Additionally, due to the voluntary nature of the research, parents and/or youth had the option not to participate in the study. Figure 3.1 illustrates the research design guiding the program evaluation.

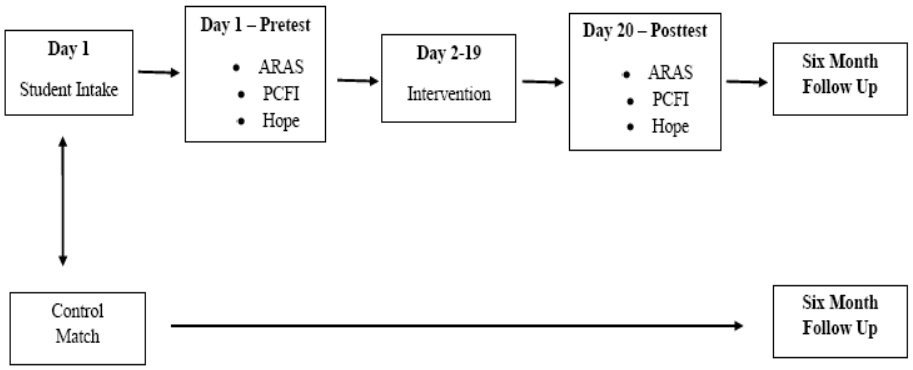

Figure 3.1 Conceptual model of the research design

Sampling Procedure

Treatment Group

The treatment group was defined as all juveniles who were referred to the Wilderness Endeavors via the county judicial systems or through a probationary disposition. All other referrals, such as social service placements, were excluded from the study, as this research project only included juvenile probationers. This one year study, which involved a total of 16 courses, had the potential of recruiting a maximum of 160 participants in the treatment sample (see Table 3.1) However, due state wide budget cuts, lack of courses being filled, courses being cancelled due to lack of referrals and study attrition, the actual sample was significantly less (*n = 43*).

Table 3.1 Summary of Treatment Group Recruitment Totals

	Boys Endeavors	**Girls Endeavors**	***Totals***
Total Number of Courses During Evaluation Period	10	6	16
Potential Number of Participants in Treatment Group	100	60	160
Actual Number of Participants in Treatment Group	33	10	***43***

Control Group

Participants in the treatment group were matched up with anonymous control group members by the referring county probation officer. Due to the structure of the juvenile justice system in Minnesota, the only manner in which controls could be recruited was at the county level; matched by each referring probation officer. However, in northern Minnesota, five counties are managed by a central authority, the Arrowhead Regional Corrections (ARC). Thistledew Programs was able to obtain an agreement with the ARC in which their Senior Research Analyst collaborated with the researcher to create a pool of individuals for use as control group members. This was necessary due to the lack of participation of some counties, and the referring probation officers.

The control group was established by working with the counties who were the highest referral sources for the Wilderness Endeavors Program. These youth, ages 13-17, have similar characteristics as the treatment youth (first time offenders,

truant behaviors, etc). However, these youth have some other disposition, such as being sent to a different program, a community based intervention, or other probationary sanctions. Youth who were referred to WE were 'matched' with youth having similar demographic characteristics and YLSI scores to form the control group. A total of 22 controls were recruited at the county level, and the remaining 21 were recruited from the ARC pool (see Table 3.2). Both control and treatment youth were tracked six month's post-release to determine probationary status and re-offense rates.

Table 3.2 Summary of Control Group Recruitment Totals

	Males	**Females**	**Total**
Matched at county level by probation officer	17	5	22
Matched using controls from ARC database by researcher	16	5	21

However, the lack of participation by some county probation officers presented a significant limitation in terms of matching treatment and control samples. Due to this, some participants could only be matched on age, gender, and ethnicity. Table 3.3 illustrates the demographic information that is missing from the sample. A total of 7 participants were missing age of first offense and type of committing offense information due to non-response from the probation officer. A total of 13 participants were missing risk scores; 7 due to non-response, while 6 participants had not received the risk assessment.

Recruitment and Consent Process

Due to the structure of the juvenile justice system in Minnesota, consent for participation in this study was required to be obtained by each individual county, rather than through a central authority (MN-DOC central office). The researcher collaborated with Thistledew Program managers to create a county consent letter that was subsequently approved by the Institutional Review Board (IRB) of the University of Minnesota (see appendix B). County recruitment was facilitated by the Thistledew Program managers, due to their relationship with the county administrators. County consent letters were signed by county or regional directors, and mailed to the researcher at the University of Minnesota.

A recruitment letter was created by the Thistledew Program managers in collaboration with the researcher (see appendix C). This letter was attached to the intake packet that each parent had to complete prior to their child being accepted into the Wilderness Endeavors Program. If the parents approved to have their child participate in the study, the parental consent forms was signed (See Appendix D), and returned to Thistledew Programs along with the intake materials.

After obtaining parental consent and all participating youth signed a youth ascent form (See Appendix E) once they arrived for intake at Thistledew Programs. If the student did not understand the ascent process, or had difficulty reading the ascent form, the Wilderness Endeavors Program caseworker was available to assist to ensure ascent was fully understood. All consent forms were approved by the University of Minnesota IRB, and once collected by the program caseworker, the parental consent

and youth ascent forms were mailed to the researcher at the University of Minnesota. Counties, parents, and youth all had the option to opt out of the study at any time.

Demographic Variables

All treatment group members were matched with control group members on age, gender, ethnicity, age of first offense, type of committing offense, and risk scores (if available). The demographic data (age, gender, and ethnicity) was obtained via the Wilderness Endeavors Program referral form. The additional demographic information (age of first offense, type of committing offense, risk score) was obtained by the researcher after the referral of the participant, as Thistledew Programs was not provided this information in the referral packet. Table 3.3 summarizes the demographic characteristics of the treatment group.

There were a total of 33 males and 10 females participating in treatment group. Ethnicity was categorized as white/non-white, due to the small sample size of this study. In the treatment group, approximately 60% were white, and 40% were of non-white. Approximately 86% of the study participants in the treatment sample were between the ages of 14 and 17. Age of first offense and the Youth Level of Service Inventory (YLSI) score were chosen as important matching variables in this study, and both are supported in the literature as being significant predictors of future recidivism (Cottle, Lee & Heilbrun, 2001; Marczyk, Heilbrun, Lander & DeMatteo, 2003; Snyder & Sickmund, 2006; Watt, Howells & Delfabbro, 2004). Approximately 59% of all individuals in the treatment sample were between the ages of 13-15 when first involved with the juvenile justice system.

Due to the small sample, grouping individuals in offense categories was deemed more appropriate for conducting statistical analysis. Type of committing offense was defined as the offense responsible for the probation referral to Wilderness Endeavors. The Office of Juvenile Justice and Delinquency Prevention (OJJDP) group's delinquency offenses in the following categories: 1) Person Offense; 2) Property Offense; 3) Drug Law Violation, 4) Public Order Offense, and 5) Status Offense (Snyder & Sickmund, 2006). For this study, *Person offenses* include robbery and assault, while *Property offenses* include burglary, theft, arson, vandalism, trespassing, and other property offense. *Drug law violations* include the use or possession of illegal drugs or contraband items. *Public order offenses* include disorderly conduct, weapons offense, and obstruction of justice. Finally, *Status offenses* include runaway, truancy, ungovernability, and the possession or consumption of liquor (Snyder & Sickmund, 2006). Approximately two-thirds (62.8%) of all individuals in the treatment sample were referred to Wilderness Endeavors Program due to either a person or property offense.

- The risk score was obtained via the Youth Level of Service Inventory (YLSI). The YLSI is designed to assess risk and need factors in youth 12 to 18 years of age. The YLSI examines juvenile offenders in eight different areas (i.e., prior and current offenses, family circumstances and parenting, education/employment, peer relations, substance abuse, leisure/recreation, personality/behavior, and attitudes/orientation) to determine their level of risk: low, moderate, high, or very high (Schmidt, Hoge & Gomes, 2005). In the treatment group (n=43) thirteen participants did not have a

YLSI score; either because they had not received the assessment, or the researcher was unable to obtain the information from the county probation officer.

Table 3.3 Characteristics of Treatment Group Sample

VARIABLE	CATEGORY	TOTAL SAMPLE	
		n	**%**
Gender	Male	33	76.7
	Female	10	23.3
Ethnicity	White	26	60.5
	Non-White	17	39.5
Age	13	5	11.6
	14	9	20.9
	15	8	18.6
	16	11	25.6
	17	9	20.9
	18	1	2.3
Age of First Offense	11	3	7.0
	12	4	9.3
	13	9	20.9
	14	7	16.3
	15	9	20.9
	16	3	7.0
	17	1	2.3
	Missing	*7*	*16.3*
Type of Committing Offense	Person	12	27.9
	Property	15	34.9
	Drug Law	4	9.3
	Public Order	2	4.7
	Status	3	7.0
	Missing	*7*	*16.3*
Risk Score	Low	1	2.3
	Moderate	12	27.9
	High	17	39.5
	missing	*13*	*30.2*

Instrumentation

The Perceived Competence of Functioning Inventory (PCFI)

Developed by Prairie View Solutions (2003), the Perceived Competence of Functioning Inventory (PCFI) has been normed on hundreds of youth, and assesses four domains associated with perceived self competence. This sixteen question inventory includes four items that relate to four different domains (subscales); 1) cognitive, 2) affective, 3) motivational, and 4) relational (see appendix F). The items ask youth to self-report their perceived ability in these domains on a five-point Likert scale with labled responses in the form of 1 = poor, 2 = fair, 3 = good, 4 = very good, and 5= excellent. The scoring of the PCFI is completed by adding up the test raw scores, which range between 16 and 80.

The scale has acceptable internal consistency estimates (.88) for the total scale (Reiger, 2007). Additionally, concurrent validity of the PCFI has been established against the Millon Clinical Multiaxial Inventory (Millon, 1983), suggesting a positive relationship between perceived competence and mental health regulation (Reiger, 2007). Concurrent validity has also been established against the Brief Symptom Inventory (Derogatis, 1993), and the Outcomes Questionnaire – 45 (Lambert, Lunnen, Umphress, Hansen & Burlingame, 1994), with strong negative correlations suggesting that individuals with higher levels of perceived competence tend to not report symptoms of mental health distress, relationship problems (Reiger, 2007). There are also positive correlations with all scales of the PCFI with Snyder's Hope Scale. This suggests that higher PCFI scores are associated with increased agency and pathways (Regier, 2007).

The Children's Hope Scale (CHS)

The six-item self-report Children's Hope Scale (CHS) is a trait-based measure of hope in a general sense, and was not developed to assess the relative hopefulness toward achievement of any specific or identified goal or task (see appendix H). Two subscales defined as *Agency* and *Pathways* reasoned to comprise hope. *Agency* refers to general initiative and movement towards goals, while *Pathways* refer to a youth's perspective of their capabilities to accomplish their goals. All items are measured on a six-point Likert scale ranging from;. "None of the time" = 1; "A little of the time" = 2; "Some of the time" = 3; "A lot of the time" = 4; "Most of the time" = 5; and, "All of the time" = 6. Raw scores are totaled, and can range from a low of 6, to a high of 36. The three odd numbered questions address agency, and the three even numbered questions address pathways. Change scores are evaluated and expressed in terms of effect size. For administration purposes, the name of the scale was required to be changed to "Questions about your goals", as children may not understand the construct of hope (Snyder et al, 1997).

The CHS has adequate reliability and validity in both clinical and general population samples. Internal consistency estimates range from .70 to .86 and test-retest reliabilities are .approximately .73 (Snyder et al., 1997).

Adolescent Resiliency Attitudes Scales (ARAS)

The Adolescent Resiliency Attitudes Scales (ARAS) were developed to assess resiliency as defined by Wolin and Wolin (1993) in their book entitled the *Resilient Self*. The 67-item instrument measures seven resiliencies on a five-point Likert scale. The seven resiliencies: 1) insight, 2) independence, 3) relationships, 4) initiative, 5)

creativity and humor (combined), and 6) morality. An additional subscale measures general resilience, and is defined as persistence in working through difficulties, and a belief that one can survive and make things better. The resiliency measures were further divided into "skill subscales" which contain questions that tap the basic resiliency skills associated with each resilience measure.

Scoring of the ARAS is more involved than just simply adding up raw scores. The five point Likert scale (Strongly Disagree, Disagree, Undecided, Agree, Strongly Agree) range in values from 1-5, respectively, and to reduce response bias, approximately half of the questions are reverse scored. The subscale and total resiliency scores are computed by adding up the responses to each item to obtain the participants raw score. Next, the raw score is divided by the total number of possible points on that particular scale (scales vary in number of items), and then multiplied by 100 to obtain a standardized score. Each subscale score represents a “strength index”. Higher scores indicate higher resilience, and lower scores indicate lower resilience. Finally, the individuals Total Resiliency Strength Index is calculated by dividing the sum of the individuals total ARAS score by 175 (total possible points for the ARAS), and then multiplying by 100.

. In this study, the researcher and the WE staff agreed to use only 4 of the 7 subscales (Independence, Creativity and Humor, and Morality subscales are not used in this study), as the four chosen subscales were agreed to best represent characteristics of resilience in the context of a wilderness adventure program. Furthermore, the items in the four subscales selected appeared to be reflected in the five guiding principles of Thistledew Programs. Also of noteworthy concern was

administration time involved in the ARAS, and was a factor in the decision to use only 4 of the 7 subscales (see appendix G).

There is a paucity of research on the reliability and validity of the ARAS. One study reported scale reliabilities of the ARAS as good to excellent ($\alpha = .81$) for the total scale in adolescent samples (Pinamaki, Quota, Sarraj & Montgomery, 2006). Another study reported the reliability of the subscales as satisfactory (.55-.67), and the overall scale as good. The Total Resiliency Scale was the most reliable (.87), and reported as the best indicator of resiliency (Taylor, Karcher, Kelly & Valescu, 2003). To date, there have been no published studies on the validity of the ARAS. Additionally, the ARAS has not been widely used as it lacks generalizability due to the scales development with specific populations (Tusaie & Dyer, 2004).

Recidivism

According to the American Correctional Association (2009), "there are numerous ways in to measure recidivism, and depending on what perspective is taken, statistical outcomes may vary." The most common measure of recidivism is reconviction (Bonata, Rugge & Dauvergne, 2003; Spohn & Holleran, 2002; U.S. Sentencing Commission, 2004). Besides re-conviction/re-adjudication, there are other common measures of juvenile recidivism, including re-referral to court, re-arrest, and re-incarceration (OJJDP, 2006). Through a review of the relevant literature, it is apparent that a combination of measures may be beneficial to understanding outcomes for youth who graduate the Wilderness Endeavors Program. As such, in this specific study, the following criteria were used to measure recidivism (see appendix I):

1. No new offenses since graduating the Wilderness Endeavors Program.
2. Convicted or charged with a new offense
3. Placed in a new program or facility

The first criterion (no new offense) is interpreted as no new charges of convictions. The second criterion (conviction/charged with new offense) pools together any type of criminal behaviors that would return the youth to court. The pooling of this response was explicitly chosen because of the small sample size, and the time constraints of the probation officers. A pre-screening of statewide probation officers during the development of this study revealed that they did not want to participate in a follow up that took an unreasonable amount of time. The third criterion (new program placement) was chosen for its relative importance in evaluating program effectiveness. Placement in a new program may not necessarily reflect a charge or conviction of a new crime; however, it may be strong indicator of continued behavioral problems. Re-incarceration was not chosen, due to inappropriateness for use with the population involved in the study. That is, being designed as an early intervention, the Wilderness Endeavors Program is a probation placement, and the referred youth have not been incarcerated in a long term correctional facility.

Two other covariates were chosen in examining outcomes, school and/or employment status. While school placement or employment is generally not correlated with recidivism for serious juvenile offenders (Lipsey, Wilson & Cothern, 2000), connectedness to school and work has been related to the self reports of juveniles, and their law-violating behavior (OJJDP, 2006). While the purpose of this

study is not to measure connectedness to school or work, this researcher sought to understand if involvement in school or work had any influence on recidivism for this specific population. Thus, it seemed appropriate to obtain a general evaluation these criteria in this study

Procedures and Data Collection

Participant information was collected and entered into a spreadsheet by the Wilderness Endeavors caseworker at the time of referral. Information recorded was the name of the referring county and probation officer, participant name, gender, ethnicity, and age. The participant was also assigned a code at this time, which was reflective of the numerical order in which the youth participated during the study period. This list was updated every three weeks, and sent electronically to the researcher.

The Wilderness Endeavors Program managers and Recreation Therapist's were trained by the researcher in the administration of the instruments. This training and observation period occurred over the first three courses involved in this study. Periodic observations were made during site visits over the course of the project to ensure proper and consistent administration.

The pretest data collection occurred within 48 hours of arrival at Wilderness Endeavors as youth participants were processed at intake. Participants completed the following instruments: Perceived Competence of Functioning Inventory (PCFI), the Children's Hope Scale (CHS), and the Adolescent Resiliency Attitudes Scale (ARAS). The intake battery took no longer than 30-40 minutes to complete.

During administration of the scales, the youth were placed in a large quiet room, with sufficient space between individuals to discourage talking and wandering eyes. Staff read aloud the instructions for each instrument, and responded to any questions participants might have had. In a few cases, due to learning disability or English as a Second Language (ESL), some students had to be read the questions while a staff member recorded answers. Due to the nature of the population served by Wilderness Endeavors, this issue was anticipated, and accommodations (e.g., additional staff on hand for testing) were made for this. After completing the 3-week Wilderness Endeavors Program, participants again completed the PCFI, CHS, and the ARAS the day before their graduation from the program. This again was conducted in same room and manner as the pretesting.

Immediately following graduation, the researcher was sent the updated participant spreadsheet. At this time, the researcher contacted the referring probation officer via email, and was sent a letter introducing the researcher and the purpose of the study. Additional demographic information (age of first offense, type of committing offense) was collected from the referring officer at this time. The probation officer was also provided specific detail on the matching protocols for the control. At the request of the participating counties, and in the interest of preserving anonymity, only an identifying code or case number was provided to the researcher from the probation officer to identify the control.

At six-month post treatment, recidivism was assessed by contacting all corresponding Probation Officers via email. The officer was sent an interactive PDF form (see appendix I), along with instructions. To protect confidentiality, the

information from the form was sent electronically as an encrypted data file via the PDF document. In the event that the probation officer did not want to exchange information electronically, they could use other options (fax, phone). Once the information was entered into the database, all email correspondence was deleted.

Data Analysis

Paired t-tests were utilized to explore the significance of change between pre and post test scores of the PCFI, ARAS, and Hope scales. Effect sizes are reported using *Cohen's d* , one of the most common measures of reporting effect size in the behavioral sciences (Cohen, 1988). The advantage of using paired t tests is in it's utility with the pre and post test design, and evaluating change scores in Wilderness Endeavors participant's self-efficacy, resilience, and hope for the future. To be considered statistically significant, the analysis had to achieve an alpha level of .05 or less.

The McNemar test was chosen to evaluate the hypotheses related to the treatment effects on future behaviors of participants. This test was deemed appropriate for these hypotheses due to its utility with correlated samples, such as before-after or matched pair studies. The McNemar is primarily used to test for an experimental effect, and assess the significance of differences between two dependants for a binary, dichotomous variable of interest (Garson, 2008). The test is often referred to as the *McNemar's test of symmetry*, and utilizes a chi-square distribution to assess whether the cell counts differ between samples due to a change in experimental effect (Garson, 2008). If the *p*-value for the McNemar test is less than.05, it implies that there is a significant difference between groups.

Binary logistic regression was used to identify relationships between the dichotomous, outcome variables (recidivism / no recidivism), and the set of predictors (self-efficacy, resilience, hope change scores, as well as demographic variables). The advantage of using logistic regression in our model is that if a relationship is found, the strength of prediction in the independent variables can be assessed, perhaps allowing for a simplified prediction equation, while still maintaining strong prediction (Tabachnick & Fidell, 2007). A "risk" model for the prediction of recidivism was established as a result of a stepwise logistic regression analysis, with the self-efficacy, resilience, and hope change scores in one model, and the demographic variables (gender, age of first offense, and YLSI risk score) in another model. To evaluate goodness of fit, the Hosmer and Lemeshow test (sometimes called the chi-square test) was used because it is considered more robust than the traditional chi-square test, especially when sample sizes are small. A finding of non-significance indicates that the model adequately fits the data (Garson, 2008). The odds ratio (ß) statistic is a measure of effect size, and is a way of comparing whether the probability of a certain event is the same for two groups (Garson, 2008). A resulting odds ratio of 1.00 implies that the event is equally likely in both groups; close to zero or infinity means a large difference. Thus, an odds ratio greater than 1.00 implies that one group has a larger proportion than the other, while an odds ratio less than 1.00 implies the opposite (Uitenbroek, 2009).

Validity and Reliability

The validity and reliability of the, PCFI, and CHS have already been demonstrated in previous literature (King & Remsberg, 2006; Snyder et al, 1997). Due to the paucity of research using the ARAS, only limited reliability results have been reported in the literature. However, empirical validity of the ARAS has been established in previous studies of convergent and divergent validity with the Rosenberg Self Esteem Scale (RSES) and the Beck Depression Inventory (BDI) support the validity of the ARAS, in which higher scores of self esteem correlated with higher resiliency scores, and increases in depression scores correlated with lower resiliency scores (Biscoe & Vincent, 1998; Anderson, 2006).

In this study, scale reliability was assessed for the PCFI, the CHS, and the ARAS. Subscales in each instrument were assessed for reliability as well.

Reliability statistics for the ARAS subscales were satisfactory (see table 3.1). Overall reliability of the scale was excellent ($\alpha = .905$). Subscale and overall reliability alphas were consistent with the findings of previous research published in the literature.

Reliability statistics for the PCFI subscales ranged from satisfactory to good (see table 3.2). Overall scale reliability was excellent ($\alpha = .928$). Subscale alphas were consistent with previous published results, however, overall scale reliability proved much higher in this study.

Reliability alphas for the two CHS subscales ranged from poor to good (see table 3.3). The alphas for the subscales in the CHS are meaningless though, because

hope theory requires the summation of agentic and pathways thoughts, the components are not meant to be used separately (Snyder et al, 1997). Overall scale reliability was good (α = .866).

Table 3.4 Reliability Statistics – Adolescent Resiliency Attitudes Scale

	# of Items	**Cronbach's Alpha**
Insight	14	.716
Relationships	20	.679
Initiative	18	.789
General Resiliency	18	.780
Total Scale	*70*	*.905*

Table 3.5 Reliability Statistics – Perceived Competence of Functioning Inventory

	# of Items	**Cronbach's Alpha**
Cognitive	8	.765
Motivational	8	.797
Affective	8	.774
Relational	8	.821
Total Scale	*32*	*.928*

Table 3.6 Reliability Statistics – Children's Hope Scale

	# of Items	**Cronbach's Alpha**
Agency	6	.648
Pathways	6	.826
Total Scale	*12*	*.866*

Ethical Considerations

Administration of the instrumentation posed a positional risk to participants, and the validity of the study. To protect against this, staff at Wilderness Endeavors were instructed on the purpose and protocols of the research project prior to data collection. Youth, parents, and referring probation officers were provided with a letter that presented an overview of the study and which outlined processes to ensure confidentiality of the study participants.

If parents agreed to have their child participate, the parents signed the consent form and sent the completed form back to Thistledew Programs with the other admissions material. The parameters of the study were explained to all youth during the intake phase as they arrived at Thistledew Programs. If the youth agreed, assent was obtained.

Because of the structure of the juvenile justice system in Minnesota, consent for the participation of the probation officers had to be given by the director of each individual county (see appendix B). This was completed by the Thistledew Programs Superintendant as counties referred youth to the program. In some case, due to the rural nature of Minnesota, several counties fell under the jurisdiction of a central administrative authority.

Psychosocial and mental health questions are sensitive and vulnerable to mis-interpretation by subjects. The study had one potential risk: First, most of the questions in the survey(s) are personal in nature, and could make participants feel uncomfortable. To protect against this risk, subjects were given ample opportunity to

ask questions and explained and clarified in a language they could understand. The researcher and Thistledew staff provided a confidential, safe, client centered environment for all participants. In addition, the recreation therapist and social worker were on-site to further address any issues or concerns of participants. Finally, participants always had the option of discontinuing participation if they choose.

The researcher also recognized the potential risk of breach of confidentially. To protect confidentiality, the researcher ensured that completed instruments and forms were kept in a locked file cabinet in a locked room at the Wilderness Endeavors lodge. The researcher collected the files once every month, and then immediately delivered to the university, where they were stored in a locked file cabinet. After data collection and entry was completed, all connections to instruments were deleted. In any publication or public statement based upon the study, all names, or other potentially identifying information will be omitted or changed.

CHAPTER 4 – INTERPRETATION OF THE DATA

Introduction

This chapter will discuss the outcomes of the data analysis protocols described in Chapter 3, and evaluate the hypotheses based upon the results of the statistical analysis. This chapter will be organized into three sections; with the first section addressing the hypotheses related to impacts of the Wilderness Endeavors Program on participant's self-efficacy, resilience, and hope for the future. The second section will address the hypotheses related to Wilderness Endeavors Program participation on the future offending behaviors (recidivism) of the participants. The final section will address the hypotheses related to the demographic variables, and their relative prediction of recidivism on the Wilderness Endeavors Program participants.

Section I – Self-Efficacy, Resilience, and Hope

Paired t-tests were conducted to evaluate if there was change over time (pre-test to posttest) in self-efficacy, resilience, and hope for the future The following hypotheses were proposed in Chapter 1:

Hypothesis 1: Participating in the Wilderness Endeavors Program will result in an increase in participants' self-efficacy.

Hypothesis 2: Participating in the Wilderness Endeavors Program will result in an increase in participants' resilience.

Hypothesis 3: Participating in the Wilderness Endeavors Program will result in an increase in participants' hope for the future.

The 43 participants in the treatment group demonstrated a significant increase in self-efficacy, $t(42)=-2.331$, $p=.02$, with a small effect size ($d=.35$), suggesting that improvements in self-efficacy resulted from participation in the Wilderness Endeavors Program. Increases in resilience were not significant, $t(42)=-1.100$, $p=.27$, with a small effect size ($d=.16$), suggesting that participation in the Wilderness Endeavors Programs has no significant impact on resilience (see Table 4.1). Increases in hope were significant, $t(42)=-.2.004$, $p=.05$, with a small effect size ($d=.30$), suggesting that improvements in hope for the future were as a result of participation in the Wilderness Endeavors Program

Table 4.1 - Mean differences on self-efficacy, resilience, and hope

	N	**Pre-Mean**	**SD**	**Post-Mean**	**SD**	**t**	***d***
Self-Efficacy	43	52.09	11.98	57.23	12.06	-2.33*	.35
Resilience	43	155.74	20.96	158.42	19.33	-1.10	.16
Hope	43	21.37	5.35	23.41	6.62	-2.00*	.30

*Note: *p < .05*

The results of the analysis supported Hypothesis 1 and Hypothesis 3, but failed to support Hypothesis 2. In an attempt to explore possible reasons for the non-significance in the ARAS (resilience) change score, the researcher explored mean score (pre, post, and change) differences across gender and ethnicity. Table 4.2 illustrates the pre and posttest mean scores for male (n=33) and female (n=10) participants. There was little difference in scores across gender; however, the differences in mean scores across ethnicity were substantial (see Table 4.3). Both

pretest and posttest scores of white participants (n=26) were substantially higher than that of non-white participants (n=17).

Table 4.2 - Pretest and Posttest mean scores by gender

			Pre-Mean		SD		Post-Mean		SD	
	N	*Male*	*N*	*Female*	*Male*	*Female*	*Male*	*Female*	*Male*	*Female*
Self-Efficacy	33	52.3	10	51.3	11.72	11.4	57.6	56.0	11.4	14.5
Resilience	33	156.1	10	154.5	21.1	21.4	157.4	161.9	18.1	14.3
Hope	33	21.6	10	20.3	4.91	6.13	23.5	23.2	6.1	8.4

Table 4.3 - Pretest and Posttest mean scores by ethnicity

			Pre-Mean		SD		Post-Mean		SD	
	N	*White*	*N*	*Non*	*White*	*Non*	*White*	*Non*	*White*	*Non*
Self-Efficacy	26	53.0	17	50.7	10.8	13.8	60.3	52.5	10.2	13.4
Hope	26	21.5	17	21.0	4.2	6.8	24.6	21.5	5.9	7.3
Resilience	26	158.2	17	151.9	22.7	17.9	163.9	149.9	16.5	20.7

Figures 4.1-4.3 provide a graphical illustration of the differences in these scores. Additionally, increases in scores from pre to posttest were significantly less for non-white participants than white participants. Most notably, non-white participants were the only group whose resiliency scores actually decreased from pretest to posttest.

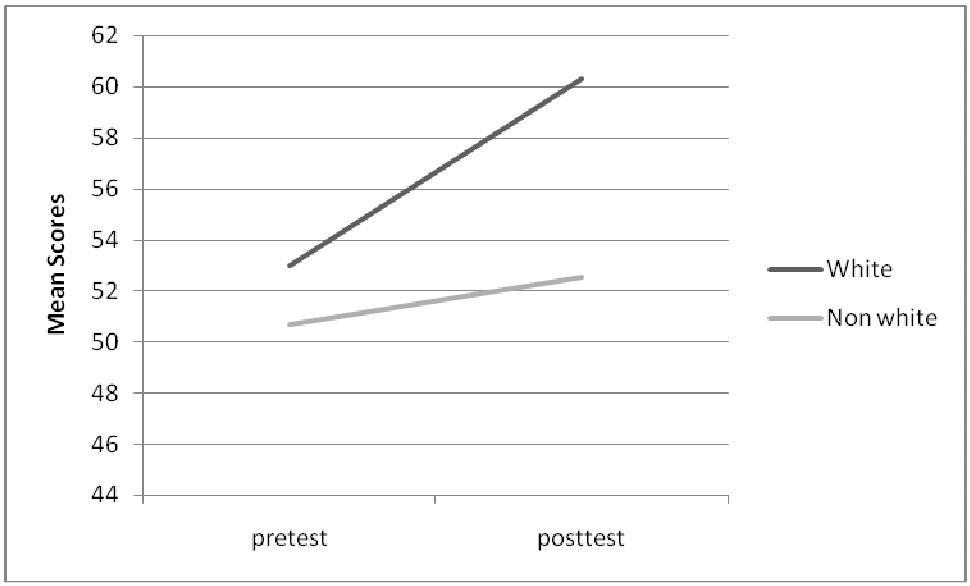

Figure 4.1 - Self-efficacy mean scores across ethnicity

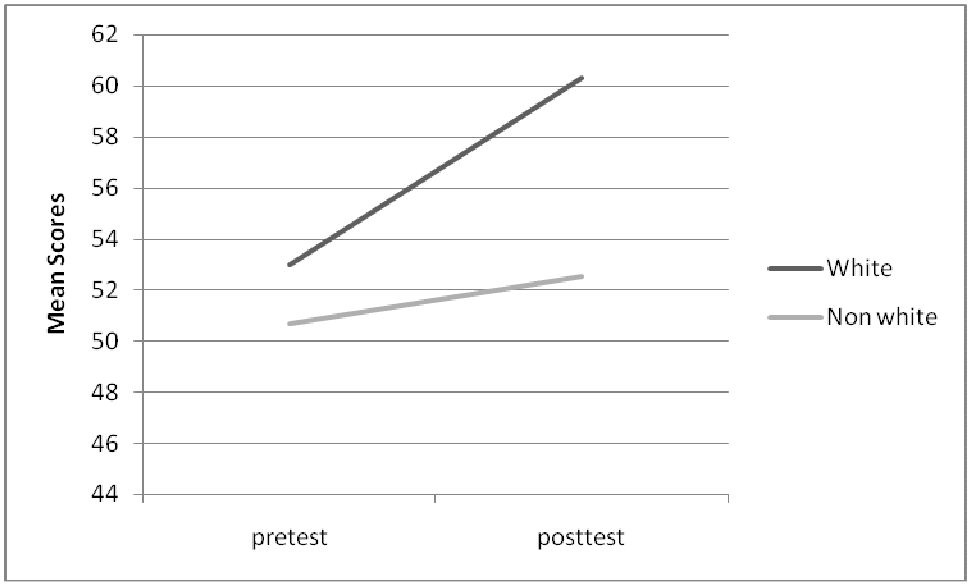

Figure 4.2 - Hope mean scores across ethnicity

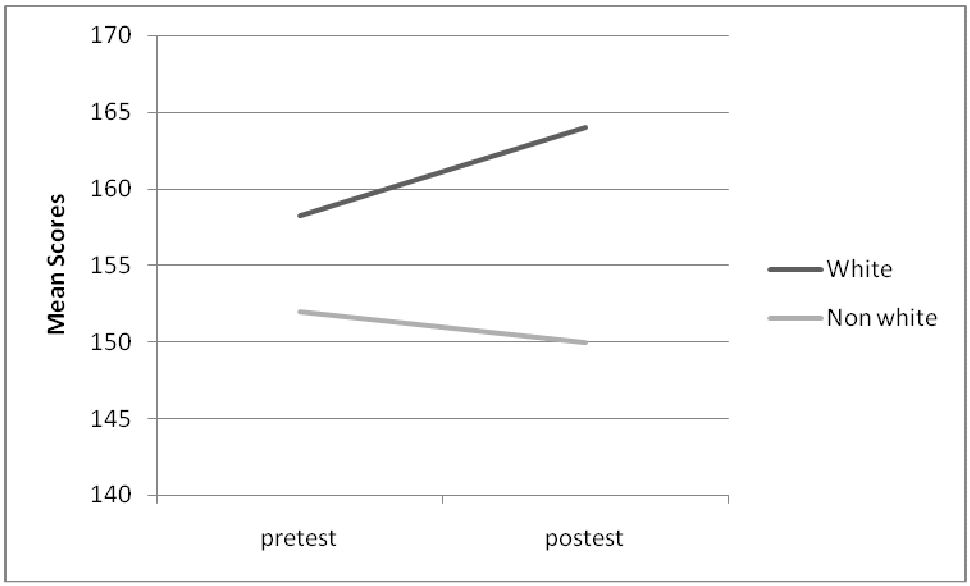

Figure 4.3 - Resilience mean scores across ethnicity

The detailed exploration of change scores among ethnic groups suggest that changes in self-efficacy, resilience, and hope (psychological outcomes) for Wilderness Endeavors Program participants of non-white ethnic origin are much less than those individuals of white ethnicity.

To conclude, the overall results from the pretesting and post testing of the three instruments suggest that the Wilderness Endeavors Program increases participant's self-efficacy and hope for the future, supporting Hypotheses 1 and 3. However, there was insufficient evidence to support the second hypothesis, which suggested that participation in the Wilderness Endeavors Program would increase participant's psychological resilience. Previous literature supports the researcher's findings, suggesting that African American youth participating in a wilderness program reported a decrease in self-concept following participation (Orren & Werner, 2007). Furthermore, the social psychology literature supports that self-disclosure is difficult

for many African Americans, as it may leave them susceptible to racism (Orren & Werner, 2007). However, it is difficult to generalize these findings to the current study, since ethnicity was classified and white and non-white and the specific ethnicity of non-white participants are unknown. Nonetheless, participants of white ethnic background experienced significantly more psychological effects through participation in the Wilderness Endeavors Program that those of non-white ethnic background.

Section II – Analysis of Recidivism

This section will discuss the results of the analysis related to Wilderness Endeavors Program participation on future recidivism, and on specific future behaviors reasoned to be associated with recidivism. Specifically, the following hypotheses were proposed in Chapter One:

> *Hypothesis 4*: Wilderness Endeavors Program participants are less likely to recidivate than a control group of juvenile offenders with similar demographic and risk characteristics.
>
> *Hypothesis 5*: Wilderness Endeavors Program participants are less likely to have future probationary placements than a control group of juvenile offenders with similar demographic and risk characteristics.
>
> *Hypothesis 6*: Wilderness Endeavors Program participants are more likely to be involved in school than a control group of juvenile offenders with similar demographic and risk characteristics.

Hypothesis 7: Wilderness Endeavors Program participants are more likely to be involved in employment than a control group of juvenile offenders with similar demographic and risk characteristics.

Hypothesis 4 sought to evaluate if the Wilderness Endeavors Program participants had experienced a decrease in recidivism as compared to a control group over a period of six months post treatment. Recidivism was defined as "charged or convicted of a new crime" on the six month follow up form (see appendix I), and was submitted as a "yes" or "no" response. To explore re-offense rates between the two groups, recidivism frequencies and McNemar's test results were evaluated.

In the treatment group (see Table 4.4), approximately 44% of all Wilderness Endeavors Program participants evaluated recidivated, while in the control group, approximately 42% of all controls recidivated. Only 36 of all study participants (n=43) were evaluated for recidivism in both groups, as the researcher failed to obtain recidivism data on 8 participants.

Table 4.4 - Recidivism Frequencies – Treatment and Control Groups

	Treatment		**Control**	
	Yes	**No**	**Yes**	**No**
Number of Subjects	16	20	15	21
Valid Percent (%)	44.4	55.6	41.7	58.3
Missing data	7		7	
Total Evaluated	36		36	

McNemar's test was utilized to evaluate the significance of the recidivism frequencies (n=36) between the treatment and control groups. McNemar's chi-square statistic suggests that there is not a statistically significant difference (McNemar,

p=1.00) in recidivism between Wilderness Endeavors Participants and the control group (see Table 4.5).

Table 4.5 – McNemar Significance Test for Recidivism
(Treatment vs. Control Group)

	Recidivism Treatment Recidivism Control
N	36
Exact Sig (2-tailed)	1.00

The fifth hypothesis sought to evaluate if the Wilderness Endeavors Program participants had experienced a decrease in new placements as compared to a control group over a period of six months post treatment. New probationary placement was defined as any new program (correctional, community based, social service) that resulted from conviction of a new offense, delinquency, or any other behavioral issue. On the six month follow up form (see appendix I), probation officers submitted a "yes" or "no" response. To explore new placement rates between groups, placement frequencies and McNemar's test results were evaluated.

In the treatment group (see Table 4.6), approximately 37% of all Wilderness Endeavors Program participants' received new placements, while approximately 26% of all control group participants received new placements. Only 35 of all study participants (n=43) were evaluated for new placements in both groups, as the researcher failed to obtain recidivism data on 8 participants.

Table 4.6 - New Placement Frequencies – Treatment and Control Groups

	Treatment		Control	
	Yes	**No**	**Yes**	**No**
Number of Subjects	13	22	9	26
Valid Percent (%)	37.1	62.9	25.7	74.3
Missing data	8		8	
Total Evaluated	35		35	

McNemar's test was utilized to evaluate the significance of the new placement frequencies (n=35). McNemar's chi-square statistic (see Table 4.7) suggests that there is not a statistically significant difference (McNemar, *p*=.388) in new placements between Wilderness Endeavors Participants and the control group.

Table 4.7 – McNemar Significance Test for New Placement
(Treatment vs. Control Group)

	New Placement Treatment **New Placement Control**
N	35
Exact Sig (2-tailed)	.38

Hypotheses 6 and 7 sought to evaluate the effect of the Wilderness Endeavors Program on school participation and employment, and was hypothesized that program graduates were more likely to be involved in school (or GED program) and employment as compared to a control group. Education was defined by being enrolled in school or a General Education Degree (GED) program. Employment was defined as any type of legal work in which the youth received compensation (e.g. money).

In the treatment group (see Table 4.8), approximately 86% of all Wilderness Endeavors Program participants' were enrolled in school or a GED program at six month follow-up, while approximately 76% of all control group participants were

enrolled in school or a GED program. Only 35 of all study participants (n=43) were evaluated for education status, while in the control group, only 33 were evaluated, as the researcher failed to obtain education data on a total of 18 subjects.

McNemar's test was utilized to evaluate the significance of education frequencies (n=33). McNemar's chi-square statistic (see Table 4.9) suggests that there is not a statistically significant difference (McNemar, *p*=.54) in education status between Wilderness Endeavors Participants and the control group.

Table 4.8 - Education Frequencies – Treatment and Control Groups

	Treatment		**Control**	
	Yes	**No**	**Yes**	**No**
Number of Subjects	30	5	25	8
Valid Percent (%)	85.7	14.3	75.8	24.2
Missing data	8		10	
Total Evaluated	35		33	

Table 4.9 – McNemar Significance Test for Education (Treatment vs. Control Group)

	Education Treatment Education Control
N	33
Exact Sig (2-tailed)	.54

With respect to being engaged in employment (see Table 4.10), approximately 17% of all Wilderness Endeavors Program participants' were employed at six month follow-up, while 12% of all control group participants were employed. Only 35 of all study participants (n=43) were evaluated for employment status, while in the control group, only 33 were evaluated, as the researcher failed to obtain employment data on a total of 18 subjects.

McNemar's test was utilized to evaluate the significance of employment frequencies (n=33). McNemar's chi-square statistic (see Table 4.11) suggests that there is not a statistically significant difference (McNemar, *p*=.68) in employment status between Wilderness Endeavors Participants and the control group.

Table 4.10 - Employment Frequencies – Treatment and Control Groups

	Treatment		**Control**	
	Yes	**No**	**Yes**	**No**
Number of Subjects	6	29	4	29
Valid Percent (%)	17.1	82.9	12.1	87.9
Missing data	8		10	
Total Evaluated	35		33	

Table 4.11 – McNemar Significance Test for Employment
(Treatment vs. Control Group)

	Employment Treatment Employment Control
N	33
Exact Sig (2-tailed)	.68

Section III- Predictors of Recidivism

The final section of Chapter 4 will address the hypotheses related to the independent variables, and their influence on recidivism of Wilderness Endeavors Program participants. The following hypotheses were presented in Chapter One:

> *Hypothesis 8*: Increases in self-efficacy, resilience and hope in Wilderness Endeavors Program participants will be associated with lower incidences of recidivism.

Hypothesis 9: Gender is a predictor of recidivism for Wilderness Endeavors Program participants.

Hypothesis 10: Age of first offense is a predictor of recidivism for Wilderness Endeavors Program participants.

Hypothesis 11: Risk score is a predictor of recidivism for Wilderness Endeavors Program participants.

With respect to the hypothesis 8, the researcher sought to investigate that those individuals with higher change scores in self-efficacy, resilience, and hope (due to participation in the Wilderness Endeavors Program) would be less likely to recidivate. Table 4.12 presents the risk model for the prediction of recidivism as a result of change scores in self-efficacy (PCFI), hope (CHS), and resilience (ARAS).

The data is a good fit for the model, $\chi^2(df=8, N=43) = 7.48$, $p=.39$. The results reveal that an increase in hope scores was the only psychological trait that approached significance (although not statistically significant), suggesting that hope has the best possible predictive ability for those individuals who do not recidivate (OR=1.211). Changes in self-efficacy (OR=.949) and resilience scores (OR=.991) have little predictive ability for recidivism. Therefore, Wilderness Endeavors participants who do not recidivate are 1.21 times more likely to have higher levels of hope for the future than those who recidivate six months post treatment.

Table 4.12 - Model for the prediction of recidivism – PCFI, Hope, ARAS

	HL	B	SE	*p*	OR	95% CI
Model	.39					
Self-Efficacy		-.05	.05	.30	.94	.86-1.05
Hope		.19	.10	.07	1.21	.98-1.49
Resilience		-.30	.42	.73	.99	.94-1.04
Constant		-.30	.42	.46	.73	

HL = Hosmer and Lemeshow goodness of fit statistic
B = Regression coefficient
SE = Standard error
OR = Odds ratio

Hypotheses 9 through 11 sought to establish the predictive ability of gender, age of first offense, and risk score (YLSI) on future recidivism of Wilderness Endeavors participants. First, frequencies and means were explored to assess the demographic characteristics across the six month follow up of Wilderness Endeavors Program graduates (see Table 4.13). Mean values of gender, ethnicity, age of first offense, and type of committing offense suggesting little difference of these characteristics between the treatment and control groups. However, those subjects who did recidivate had a substantially higher YLSI risk score (*M*=2.79, *SD*=.43) than those who did not recidivate (*M*=2.21, *SD*=.58).

Table 4.13 - Mean Values of Demographic Variables in Relationship to Recidivism

	No Recidivism		Recidivated	
	Mean	**SD**	**Mean**	**SD**
Gender[a]	1.25	.44	1.19	.40
Ethnicity[b]	1.30	.47	1.44	.51
Age of First Offense	13.94	1.59	13.47	1.55
Committing Offense[c]	2.28	1.13	2.13	1.36
Risk Score[d]	2.21	.58	2.79	.43

Note: Values are for treatment group only
a. Values for gender are 1=male; 2=female
b. Values for ethnicity are 1=white; 2=non-white
c. Values for committing offense categories are 1=person; 2=property; 3=drug law; 4=Public order; 5=status
d. Values for YLSI risk score are 1=low; 2=moderate; 3=high; 4=very high

Finally, the researcher evaluated the significance of the three critical demographic characteristics supported in the literature as being predictors of juvenile recidivism. Table 4.14 presents the risk model for the prediction of recidivism based upon gender, age of first offense, and YLSI score. The data is a good fit for the model, $\chi^2(df=8, N=43) = 7.48$, $p=.48$. The findings suggest that gender is not associated with recidivism and is not statistically significant (OR=.297, $p=.31$). Additionally, age of first offense (OR=.761, $p=.35$) has little predictive ability for recidivism, and is not statistically significant. .However, the findings suggest that YLSI scores have the best predictive ability for Wilderness Endeavors participants who recidivate. (OR=9.43, $p=.01$). Therefore, participants who recidivate are 9.43 times more likely to have a higher risk score than those individuals who do not recidivate.

Table 4.14 - Model for the prediction of recidivism

	HL	**B**	**SE**	***p***	**OR**	**95% CI**
Model	.48					
Gender		-1.21	1.20	.31	.29	.03-3.15
Age 1st offense		-.27	.85	.35	.76	.43-1.36
YLSI score		2.24	4.64	.01	9.43	1.55-57.39
Constant		-.46	4.64	.92	.62	

HL = Hosmer and Lemeshow statistic
B = Regression coefficient
SE = Standard error
OR = Odds ratio

Summary of Results

The researcher used paired t-tests, logistic regression and non-parametric tests to investigate the eleven hypotheses put forth in Chapter One. The paired t tests revealed that self efficacy and hope scores showed significant changes from pretest to

posttest, suggesting that the Wilderness Endeavors Program had a significant positive effect on participant's self-efficacy and hope for the future. The exploration of the influence of ethnicity on the responses to the three instruments revealed some additional useful information that provides important insight into the discussion and future implications of this research study.

The non parametric test (McNemar) utilized to investigate the four hypotheses related to Wilderness Endeavors Program participation on the future offending behaviors (recidivism) of participants revealed that there were no significant differences in recidivism rates, or new program placements, between the treatment and control groups. Furthermore, involvement in school and employment were not significantly associated with recidivism rates in both treatment and control groups.

The binary logistic regression utilized to investigate the four hypotheses related to the variables reasoned to predict recidivism for the treatment group had mixed findings. Higher levels of hope were associated with those Wilderness Endeavors Program participants who did not recidivate, while changes in self-efficacy and resilience scores had no association with either those who recidivated, and those who did not. Finally, the three demographic variables that are supported in the literature as being strong predictors of recidivism for juvenile offenders revealed only YLSI scores were associated with recidivism; those individuals who did not recidivate were more likely to have a lower risk score. Gender and age of first offense had weak or no associations with either group.

Therefore, the researcher can conclude that participation in the Wilderness Endeavors program does have a positive influence some important determinants' of the participant's behavior. The concluding chapter of this dissertation will discuss the findings, along with the important theoretical implications this research study has revealed. A discussion of the implications for the Wilderness Endeavors Program will follow, concluding with directions for future research on wilderness and adventure programs that serve young people in the juvenile justice system.

CHAPTER 5 – DISCUSSION AND IMPLICATIONS

Introduction

In Chapter Two, the researcher illustrated that the Wilderness Endeavors Program was supported by the theoretical underpinnings of child development, and adventure program theories. This hypothesis framed the evaluation of the Wilderness Endeavors Program, and initiated the investigation into the psychological domains impacted by wilderness and adventure programs (self-efficacy, resilience, and hope for the future). A review of the literature supported a relationship between these critical dimensions of adolescent development, specifically, the ecological and social learning theories of human development, and the course components of the Wilderness Endeavors Program. The researcher proposed that through participation in the Wilderness Endeavors Program, improvements in self-efficacy, resilience, and hope would positively impact future behaviors of participants, and thus would be less likely to have further involvement in the juvenile justice system.

Research Questions

The researchers used quantitative data to investigate the hypotheses presented in Chapter One of this dissertation. These hypotheses were guided by the following research questions:

1) What are the effects of the Wilderness Endeavors Program experience on participants' self-efficacy, resilience, and hope for the future?

2) Does the successful completion of the Wilderness Endeavors Program have a long-term (six months) positive impact on future offending behaviors of

participants, as compared to a control group of similar youth referred to some other correctional disposition?

3) What are the contributions of self-efficacy, resilience, and hope to recidivism in Wilderness Endeavors Program participants, and

4) What effect does the demographic and risk characteristics influence recidivism in Wilderness Endeavors Program graduates?

Discussion of Results

The first research question sought to investigate the Wilderness Endeavors Program effects on the psychological domains of self-efficacy, resilience, and hope. The analysis revealed that the increases in self-efficacy and hope were significant for Wilderness Endeavors Program graduates. This finding supports previous studies that examined the effects of challenge programs on the participant's self-efficacy (Davis-Berman & Berman, 1989; Hattie, Marsh, Neill, & Richards, 1997; Marsh & Richards 1988; Paxton & McAvoy, 1998; Propst & Koesler, 1998). Furthermore, the association between self-efficacy and hope for the future is supported in the psychological literature (Bandura, 1982; Mageletta & Oliver, 1999; Valle et al, 2006), and not surprisingly, hope scores also increased significantly due to participation in the Wilderness Endeavors Program. In conclusion, this study was able to demonstrate that there is a direct increase in self-efficacy and hope for the future after the successful completion of the Wilderness Endeavors Program.

An examination of the pretest and posttest scores revealed no significant increases in resilience amongst Wilderness Endeavors Program participants.

Additionally, a significant number of subjects in this study actually reported a decrease in resilience scores after completing the Wilderness Endeavors Program. Although this was not a hypothesis under investigation, the exploratory nature of this study warranted a discussion of these findings. Through an analysis of the data, the researcher found that participants of a non-white ethnicity consistently achieved substantially lower scores not only in resilience, but self-efficacy and hope as well.

Over the past 10 years, a significant amount of research has been conducted in the psychology and counseling fields regarding psychometric instruments, and their utility with non-Caucasian ethnic groups. Clinical studies have revealed that cultural values and beliefs impact minority population's responses to psychological interventions (Orren & Werner, 2007). Furthermore, the social psychology literature reveals that self-disclosure is difficult for minorities, especially for African Americans, because they feel that it may leave them vulnerable to racism (Sue & Sue, 1990). Thus, inflated pretest scores of African Americans can be understood as self-protection, and lower post-test scores could suggest that program participation increased trust, resulting in less defensive, more genuine response (Orren & Werner, 2007). While investigating multi-cultural issues was not an initial objective of this study, the results of the analysis alludes to the concern of the appropriateness for using only pre and posttest psychometric instruments in this study. A qualitative dimension of this study may have been appropriate, and could have yielded important, rich information on the program effects on the non-Caucasian participants.

The use of the resiliency (ARAS) scale was an additional concern. This instrument had little published reliability, and validity has yet to be established within

the literature. Another potential issue with the ARAS was the length and the structure of the instrument. This instrument, even with three subscales being omitted, could still be considered lengthy with a total of 35 questions. The structure of the instrument was yet another concern. While the self-efficacy and hope scales had all of the responses for each question clearly labeled (see appendix F, H), the resiliency scale did not, and respondents had to remember what each response value represented (see appendix G). Both of these issues could potentially have been sources of frustration for respondents, especially for those who may have had a learning disability or may have struggled with the English language. This potentially could have resulted in biased responses, and not being an accurate reflection of their true feelings.

The second research question sought to investigate if there was a relationship between the successful completion of the Wilderness Endeavors Program, and the future offending behaviors of participants, as compared to a control group of youth with similar demographic and risk characteristic. The results of the analysis revealed that the treatment effects of the Wilderness Endeavors Program did not have a significant impact on the future recidivism of participants as compared to the control group subjects. Recidivism rates were approximately 44% for the treatment group, and 42% for the control groups.

In the treatment group, there was no significant difference in gender, age of first offense, and type of committing offense between those subjects who recidivated and those who did not. However, there was a significant difference between the two groups in YLSI risk score. Those who did not recidivate, on average, had a medium risk score at intake, while those subjects who did recidivate, on average, had a higher

risk score. This lends further support to the predicative ability of the YLSI as a useful instrument in assessing risk factors in relationship to recidivism.

The comparison of recidivism rates between the treatment and control group should also be interpreted with caution for several reasons. First, the researcher had little influence on the matching of participants, given that the controls were recruited at the sole discretion of county probation officers. Secondly, attrition of probation officers resulted in both a loss of control and treatment group subjects at six month follow up. While recidivism rates for the sample in this study may appear promising, they should not be generalized beyond this study. Nationally, juvenile recidivism rates are usually evaluated over a one or two period. Given this study only evaluated recidivism six months post treatment, the conclusions cannot extend beyond the sample population involved in this study.

Regardless of the evaluation time frame, the recidivism rates in the United States for juveniles are high, especially with those individuals who have extensive and serious offense histories (OJJDP, 2006). The ecological and environmental characteristics that interfere with the healthy development of youth in the juvenile justice system are often chronic, and extremely difficult to change. Poverty, violence, illiteracy, racism and lack of opportunity are just a few of the many social and political issues that characterize the reality of these youth and their families. Until these issues are addressed under national policy, and adopted as a fundamental social responsibility of all citizens, outcomes for many youth in the juvenile justice system will remain poor.

The third research question sought to evaluate the post program psychological benefits of participation in the Wilderness Endeavors Program, and what effect increases in self-efficacy, resilience, and hope may have on future recidivism. The analysis revealed that an increase in levels of hope was the only psychological domain that was associated with those participants who did not recidivate. In Chapter 2, the literature demonstrated the influence that self-efficacy and resilience has upon an individual's ability to have hope for the future. Therefore, it appears that hope is a robust psychological trait, and those individuals with high levels of hope for the future are more likely to be self-efficacious, and may have a stronger ability to make positive adaptations to adversity.

The final question the researcher sought to evaluate in this study was the impact three demographic variables (gender, age of first offense, and YLSI risk score) that have been demonstrated in the criminological literature as being significant predictors of juvenile recidivism, and assessing their relative predictive ability for Wilderness Endeavors Program participants. In the treatment group, only the YLSI risk score was found to be a significant predictor of recidivism for the Wilderness Endeavors Program participants involved in this study. Therefore, those individuals who have a higher risk score at program intake have a much greater probability of recidivating than those individuals with a lower risk score at intake.

Gender and age of first offense were also not found to be significant predicators of recidivism in this study. However, one should approach these findings with caution. There is a substantial body of literature supporting these variables as predictors of juvenile recidivism. The small sample involved in this study, combined

with the lack of demographic information (due to probation officer attrition), may have had a substantial impact on the results of this analysis.

To conclude, this study has demonstrated that there are some positive program effects on key developmental domains of the adolescent's who were involved in the Wilderness Endeavors Program. Furthermore, enhancements in the psychosocial constructs evaluated in this study do have some influence on the future offending behaviors of these Wilderness Endeavors Program participants. However, it should be emphasized that the findings from this exploratory study should approached with prudence due to the significant limitations, and the researchers conclusions should not be generalized to any population outside of the sample involved in this study.

Even in light of the limitations of the current study, the findings presented lend support to the previous research of wilderness programs. Wilson and Lipsey (2000) in their meta-analysis of 29 different studies of wilderness programs involving more than 3,000 juvenile offenders found that programs that combine intense physical activity with therapeutic enhancements such as family, group, and individual therapy are especially effective interventions for youth in the juvenile justice system.

Theoretical Implications

Therapeutic wilderness programs have often been criticized for lacking a theoretical basis for program development and outcomes (Latessa et al, 2002), or, they have been characterized in the criminological literature as being based upon an "offenders need to get back to nature" theory (Latessa, 2004). While no theory was directly tested in this research, the findings lend support for the theories used in the

development of this project. The principal implication of the research is that participation in the Wilderness Endeavors Program is based upon credible theory, and does have a positive impact on important psychological domains of adolescent development.

The Outward Bound model based on the theoretical framework of Kurt Hahn (Priest and Gass, 1997) and the Adventure Programming Theoretical Model (Gass, 1993) are both integrated within the Wilderness Endeavors Program. Two of Hahn's key ideas in adventure programming are the incorporation of adventure and risk activities, and the use of small groups. Through this, Hahn hypothesized that these components would cultivate both a passion for life, and natural leadership abilities of participants. Additionally, Gass (1993), expanded on Hahn's theories, with such ideas as creating a cooperative environment amongst leaders and participants, presenting unique problem solving situations in programming, and the group processing of the experiences. Furthermore, Hahn's ideas are encapsulated in the principles of social learning, where modeling, reinforcement, rehearsing appropriate behaviors and problem solving are keystone behavioral therapy components included in wilderness program theory and delivery (Hill, 2007; Russell & Farnum, 2004). Through the use of small groups in the Wilderness Endeavors Program (such as processing groups, task-oriented groups), students must cooperate and work together, where naturally, interpersonal skills between members are enhanced. These experiential based groups provide an excellent medium where individuals can learn about how other's perceive them and their interpersonal skills (Corey & Corey, 2000). Thus, this researcher has proposed an important theoretical link between social learning, and adventure therapy

models. These linkages serve as cornerstones of the Wilderness Endeavors Program, and are embedded throughout the course components. Through the use of risk and adventure activities (hard skills), social learning is facilitated through instructor modeling and the group processing (soft skills) of activities, lessons, group issues, and conflict.

The support of ecological theory allows for an informed insight into the lives of the youth served by the Wilderness Endeavors Program. The literature clearly documents that children who are exposed to adverse ecological conditions are put at risk for poor adjustment (Prelow, Weaver & Swenson, 2006). These adverse conditions, often referred to as risk factors, do not occur in isolation, but rather, are inter-related. Many of the youth served by the Wilderness Endeavors Program are faced with risk factors that jeopardize a healthy ecological environment. These risk factors include, but are not limited to, poverty, alcohol and drugs, violence, acute traumatic events, broken homes, loss of social capitol, and social justice issues (Shader, 2003). Other challenges for these youth include poor parenting and peer relations, and lack of positive role models. Furthermore, research has suggested two major developmental ecological hazards in youthful offenders, destructive relationships and loss of purpose, or hope (Coll, Thobro & Haas, 2004). Through an understanding of the ecology of human development, the critical importance of cultivating nurturing relationships, and having a sense of hope for the future for young offenders, this researcher proposes an essential theoretical relationship between the ecological, social learning, and hope theories.

An understanding of the ecology of the participant drives the goals and objectives for each participant in the Wilderness Endeavors Program. Although each individual's ecological systems are unique and complex, it is critical for the wilderness therapist and instructors to help the youth identify their systems, and most importantly, how can they influence change within them.

With the support of both child development and adventure theories, this study has established a substantial theoretical foundation for the Wilderness Endeavors Program. The correlation between the adventure model utilized by the Wilderness Endeavors Program, the tenets of Social Learning Theory (Bandura, 1977), and the ecology of human development (Bronfenbrenner, 1979), allow for a plausible theoretical explanation of the Wilderness Endeavors Program.

Implications for Practice

There a number of implications for practice as a result of this research study. Given the research was exploratory in nature, and lacking in external validity, all of the implications are specific to the Wilderness Endeavors Program. First, an understanding of developmental and psychological theories, along with their applications to wilderness and adventure education would be beneficial to program staff. This knowledge would allow for an insight into the mechanisms by which participants improve self-efficacy, resilience, and hope for the future. Emphasis should be placed on self-efficacy and hope, considering the significance of these constructs in the findings of this research.

Adopting a detailed ecological "screening" for participants at intake could be beneficial to curriculum and field staff. This rich information could be extremely useful for field staff throughout course. Specifically, reflection assignments, group processing, and the solo experience could be tailored specifically to the needs of the youth based on this ecological screening. This information could assist in immediate focus on the challenges and barriers these youth face in their communities and help guide the therapeutic processes and outcomes between program staff and participants. For example, if a youth presents at intake with multiple issues and challenges, field instructors would be able to focus on the "most limiting resource", or that factor or resource which appears to drive or dominate the behavioral problems exhibited by the youth.

Emphasizing leadership roles and opportunities within each course would be beneficial to the individual growth of participants. Given that social learning is a reciprocal process between the individual, the environment, and the behaviors of others, opportunities for appropriate behavior modeling should be emphasized within the Wilderness Endeavors Program. Additionally, because leadership roles can promote an increase in self-esteem and hope, this could potentially have positive impacts on future recidivism. For example, youth who present at intake with low levels of self-efficacy and hope for the future should be identified for leadership opportunities, and should be coached and mentored by the Wilderness Endeavors Program field instructors to ensure a positive leadership experience for these youth.

Continued evaluation of outcomes should be emphasized and pursued as well. Monitoring of recidivism (six month follow up minimum standard; one year follow up

would be best) for participants against the demographic variables in this study could also be important information not only for participant screening, but program development as well. Since the YLSI risk score was the strongest predictor of recidivism for the subjects in the current study, the risk score could have the potential of being a useful screening tool for the appropriateness of Wilderness Endeavors referrals, as high or very high risk youth may not appropriate candidates for the Wilderness Endeavors Program. Understanding the lack of programming options for many rural Minnesota counties, and the need to fill courses for the program, it is likely that high risk individuals may continue to be referred and accepted into the Wilderness Endeavors Program. In this case, identifying these high risk individuals could have programmatic implications. For example, since the YLSI assesses (scores) a variety of critical dimensions of an adolescents life (school, work, family, social support, etc), focusing on the dimension(s) which score lowest could aid in the treatment of these individuals. This, of course, would require that Wilderness Endeavors Program staff have access to the full YLSI assessment.

Improved communication and information sharing between county probation departments and Wilderness Endeavors Program managers would be helpful in terms of on-going program evaluation and development. Information such as age of first offense, type of committing offense, and YLSI score should be included on the intake information packet, and recorded for each referral. Furthermore, as previously mentioned, increasing the follow up with probation officers could be helpful not only for the purpose assessing recidivism, but for identifying salient program effects that are having a positive influence on the lives of the Wilderness Endeavors Program

graduates. This could be especially helpful for the high risk individuals referred to the program.

Furthermore, since the Wilderness Endeavors Program was designed as an early intervention for youthful offenders, continued evaluation should be conducted on its appropriateness to serve older participants who are repeat offenders. If appropriate, additional curriculum enhancements should be explored for older adolescents who are repeat, high risk offenders, especially those who are at emancipation age. Helping older participants to transition into adulthood could be extremely beneficial for these youth. Creating a "rites of passage" experience for older participants could be a potential program enhancement, and would be congruent with the current program philosophy and guiding principles.

Additionally, Wilderness Endeavors Program managers should explore any type of post-program protocols that can assist with reinforcement of skills acquired during program participation, and transference of learning to life back home. The criminological literature clearly has illuminated the importance of family involvement and interventions for successful program outcomes for youth in the juvenile justice system (Latessa et al, 2002; Mendel, 2000; OJJDP, 2006). Therefore, increased emphasis should be placed on family involvement in the program, such as the family circles.

Future Avenues of Inquiry

Based upon the findings of this study, there are several possibilities for future inquiry into the subject of wilderness programs for youth in the juvenile justice system:

First, a qualitative evaluation of the Wilderness Endeavors Program should be conducted to illustrate the salient program processes and outcomes, not captured in the current quantitative assessment. The current research study only employed self-report measures, and in order for a comprehensive evaluation of the Wilderness Endeavors Program, interviews with participants, families, program staff, and county stakeholders should be evaluated to assess program effectiveness.

Second, continued evaluation of wilderness programs that serve youthful offenders needs to be done using larger sample sizes, longer follow up periods, and more rigorous methodologies (i.e. random sampling, control groups) to allow for strong, external validity. Consider most of the published studies are plagued with the same limitations and delimitations of the current study, future studies should aggressively seek to reduce the limitations and delimitations which have been documented in this study

Third, additional research needs to be conducted in the area of psychological resiliency especially in the context of youth in the juvenile justice system. Focusing on increasing psychological resilience has been supported as being an effective intervention for these youth who live in adverse ecological environments (Biglan & Taylor 2000; Kumper & Alvarado, 2003). Furthermore, additional research studies

need to employ the Adolescent Attitudes Resiliency Scale in order to establish validity and reliability of this instrument.

Fourth, additional research needs to be conducted exploring the effects of wilderness and adventure programming on different ethnic groups, and across gender. This is important considering the increase of females and non-Caucasian youth in the juvenile justice system, especially with the overrepresentation of Black youth in the juvenile justice system (OJJDP, 2006). The current study supports evaluating treatment effects across ethnic background, as illustrated by the consistently lower pre and posttest scores across all domains (self-efficacy, resilience, and hope) for those participants of non-White ethnicity.

Fifth, research should continue to evaluate the long term effects of wilderness program participation on self-efficacy, resilience, and hope for the future. Since these psychological domains are suggested to be powerful determinants of behavior (Magaletta, 1999), evaluating the long term treatment effects could be especially useful. For example, employing longitudinal studies of youth completing wilderness programs could help in our understanding of long term program effects, and how these treatment effects may relate to future involvement with the juvenile and criminal justice systems.

Finally, future evaluations of wilderness programs for a juvenile justice population should explore the utilization of other outcome measures, instead of solely recidivism. The current study only employed recidivism as a dichotomous event, and did not take into account the severity or frequency of the continued offending, or the

potential positive behavioral changes that may have occurred, even in the light of a future re-offense. The literature suggests that little attention has been devoted to conceptualizing the effectiveness of sentencing policies (and programs) that go beyond the ideological boundaries of recidivism rates (Singer, 1996; Bazemore & Umbreit, 1995; Fagan, 1996). Thus, future research of wilderness programs that serve adjudicated youth should strive to conceptualize program outcomes in terms of behavioral change, rather than just focusing arrest and conviction rates.

Through these efforts and similar research studies, this researcher hopes to illuminate the efficacy of using wilderness and adventure programming as an effective and legitimate intervention for youth in the juvenile justice system. Finally, this researcher suggests that the Wilderness Endeavors Program has the potential to be a model for juvenile justice systems in other states, as this research project has demonstrated that the program is grounded in child development and adventure theory, and incorporates correctional best practices. The Thistledew Task Force (2002) was commissioned by the Minnesota State Auditor's Office to evaluate Thistledew Programs, and recommended that Thistledew Programs should serve as a national model for juvenile justice, and that the Wilderness Endeavors Program be continued as a placement option for youth in juvenile justice system. This research study supports their conclusions.

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APPENDICES

Appendix A: Letters of Approval from the MN-DOC

MINNESOTA DEPARTMENT OF CORRECTIONS

CENTRAL OFFICE

January 10, 2008

Keith Russell, Ph.D.,
School of Kinesiology
University of Minnesota
1900 University Ave. SE
Minneapolis, MN 55455

RE: Wilderness Endeavors Program

Dear Dr. Russell:

Thank you for submitting your application for research approval. On behalf of the Minnesota Department of Corrections Human Subjects Board (HSRB), I am pleased to notify you that your proposal has been approved.

Please note that you must seek approval for any changes in your study, its design, funding source, consent process, or any part of the study that may affect participants in the study. Should any of the participants in your study suffer a research-related injury or other harmful outcome, you are required to report them to the Minnesota Department of Corrections HSRB as soon as possible.

Approval of your study is for one calendar year from the approval date (January 10, 2008). When you complete your data collection, or should you discontinue your study, you must notify the Minnesota Department of Corrections HSRB. As part of the continuing review process, we reserve the right to review each study. Under some conditions, however, we may choose not to announce a continuing review.

Sincerely,

Grant Duwe, Ph.D.
Manager, Research and Evaluation
HSRB Chair
(651) 361-7377
gduwe@doc.state.mn.us

www.doc.state.mn.us
1450 Energy Park Drive, Suite 200 • St. Paul, Minnesota 55108 • PH 651.642.0200 • FAX 651.642.0227 • TTY 651.643.3589
EQUAL OPPORTUNITY EMPLOYER

MINNESOTA DEPARTMENT OF CORRECTIONS

CENTRAL OFFICE
Contributing to a Safer Minnesota

November 20, 2008

Mike Walsh
School of Kinesiology
University of Minnesota
1900 University Ave. SE
Minneapolis, MN 55455

RE: Approval for Wilderness Endeavors Study

Dear Mr. Walsh:

I am writing to advise that approval for your study has been extended from January 10, 2009, to July 10. 2009. Please note, however, that you must seek approval for any changes in your study, its design, funding source, consent process, or any part of the study that may affect participants in the study. Should any of the participants in your study suffer a research-related injury or other harmful outcome, you are required to report them to the Minnesota Department of Corrections Human Subjects Review Board (HSRB) as soon as possible.

When you complete your data collection, or should you discontinue your study, you must notify the Minnesota Department of Corrections HSRB. As part of the continuing review process, we reserve the right to review each study. Under some conditions, however, we may choose not to announce a continuing review.

Sincerely,

Grant Duwe, Ph.D.
Manager, Research and Evaluation
HSRB Chair
(651) 361-7377
gduwe@doc.state.mn.us

Appendix B: County Consent Letter

"An Equal Opportunity Employer"

MCF-TOGO

Thistledew Programs
62741 County Rd. 551
Togo, MN 55723

Telephone: (218) 376-4411
Fax: (218) 376-4489
www.thistledewprograms.com

July 16, 2008

The University of Minnesota and Thistledew Programs are writing to ask for your support and participation in an important research effort. The University of Minnesota is conducting a study of the Wilderness Endeavors program to better understand how the intervention works for young people. This information developed from the evaluation could enhance training efforts, service delivery, and discharge and follow-up procedures, which would inevitably help improve the quality of care being delivered. It could also be used to enhance credibility, and increase confidence in programs like Wilderness Endeavors.

The design of this study is a matched pair design; meaning that youth who are referred to Wilderness Endeavors will be 'matched' with youth with similar demographic and risk assessment characteristics in these jurisdictions who are not referred to Wilderness Endeavors to form the control group.

Controls will be anonymous, and will be identified by officials from each individual county. Data collected on controls will need to include: 1) age, 2) age of first offense, 3) type of offense, and 4) YLSI scores (or other risk assessment). All data will be stripped of any identifiers, and coded accordingly to maintain relation with the treatment group match (Wilderness Endeavors participant).

No testing will be conducted with the control group participants, only the individuals probationary status will need to be tracked 6 months after the Wilderness Endeavors 'match' graduates from the program.

Your cooperation and participation in the study is critical. The control group match is an extremely important aspect of this study. By signing this agreement, county officials / probation officers will agree to:

- To work with the Wilderness Endeavors staff and the University researchers to match program participants to similar individuals to form the control group.
- Follow up with control group subjects 6 months out to track probationary status.

Contacts and Questions

- The researchers conducting this study are: Dr. Keith Russell (Principle Investigator) and Michael Walsh (Research Assistant). If you have questions about the study **you are encouraged** to contact them at the University of Minnesota, (612-626-4280), krussell@umn.edu or mwalsh@umn.edu.

- If you have any questions or concerns regarding this study and would like to talk to someone other than the researcher(s), **you are encouraged** to contact the Research Subjects' Advocate Line, D528 Mayo, 420 Delaware St. Southeast, Minneapolis, Minnesota 55455; (612) 625-1650.

Statement of Consent

I have read the above information. Our county gives consent to participate in the study.

Participating County	Date
Signature of County Official	Title
Thistledew Superintendent- David Hegg	Date
Signature of Investigator	Date

Appendix C: Recruitment Letter Sent to Parents

Thistledew Programs 62741 County Rd. 551 Togo, MN 55723

Date: May 27, 2008

Dear Parents or legal guardians of youth participating in Wilderness Endeavors,

We are writing to ask for your support and participation in an important research effort. The University of Minnesota is conducting a study of the Wilderness Endeavors Program to better understand how the intervention works for young people. This information developed from the evaluation could enhance training efforts, service delivery, and discharge and follow-up procedures, which would inevitably help improve the quality of care being delivered. It could also be used to enhance credibility, and increase confidence in programs like ours for you and other parents. Your son / daughter was chosen to participate in this study because of the random dates that your child was enrolled in the program. Your child will be asked to complete a set of short questionnaires on your child's behavior and emotional state at the beginning and completion of this Wilderness Endeavors study. We will also be contacting the probation officer assigned to your child at the six-month follow-up period and asking them some questions about how well your child is doing since discharge from the program. Only the staff of Thistledew administering the study and the research team at the University of Minnesota which includes **Keith C. Russell,** Ph.D**.,** Associate Professor at the University of Minnesota, and **Michael Walsh** a research assistant will have access to this information. We do not see any risks to you other than a possible breach of confidentiality. To protect against that risk, we will ensure that your responses are held in the possession of Keith C. Russell in the offices at the University of Minnesota. Your name will not appear on any materials. In any publication or public statement based upon the study, all names, or other potentially identifying information will be omitted or changed. You might find participating in this interview to be beneficial insofar as it gives you a chance to talk about things of importance to you, and a chance to aid a scientific study that may eventually lead to greater understanding and delivery of outdoor behavioral healthcare. Thank you in advance for helping us with this research which will ultimately improve the quality of care we can offer to families and children in the future.

If you have any questions about this research, please contact program director at (218) 376-4031 dvonbargen@thd.doc.state.mn.us.

Appendix D: Parental Consent Form

Parental Consent Form

Your son / daughter is invited to be in a research study of the Wilderness Endeavors Program. Your child was selected as a possible participant because he/she was referred to the program by a probation officer, or juvenile court. We ask that you read this form and ask any questions you may have before agreeing to be in the study. This study is being conducted by: Keith C. Russell, Ph.D. (principal investigator), and Michael Walsh, M.Ed (research assistant) in the School of Kinesiology at the University of Minnesota.

Background Information

The purpose of this study is: to evaluate the impact of the Wilderness Endeavors Program as being an intervention for the prevention of youth having further involvement with the juvenile justice system.

Procedures

If you provide consent to have your child participate in this study, we would ask your child do the following:

- To fill out 3 questionnaires before and after the Wilderness Endeavors Program. These surveys will take approximately 30 minutes (total) to fill out. These surveys are:
  - Adolescent Resilience Attitude Scale (ARAS) – This scale measures your child's ability to cope with difficult and stressful events.
  - Perceived Competence of Functioning Inventory (PCFI) – This scale measures your child's belief in his/her ability to accomplish goals.
  - Children's Hope Scale (CHS) – This scale measures your child's perception of positive future outcomes in their life.
- A significant part of this study is to assess your child's probationary status 6 months after he/she graduates from the Wilderness Endeavors Program. In order to do this, we will need to contact your child's probation officer for this information. In addition, we will ask the probation officer questions to assess their opinions on why they feel your child is successful, or having continued involvement in the juvenile justice system.

Risks and benefits of being in the Study

The study has one potential risk: Most of the questions in the survey(s) are personal in nature, and they may make participants feel uncomfortable. If that occurs, participants can choose not to respond to the question(s), or can choose to terminate the study.

Examples of the most personal / probing questions include:

1) *Please rate your ability to have satisfying relationships with your family.*

2) *If I love someone, I can put up with them hurting me.*

There are no direct benefits to participation in this study.

Confidentiality

The records of this study will be kept private. In any sort of report we might publish, we will not include any information that will make it possible to identify a subject. Research records will be stored securely and only researchers will have access to the records. Research participants will be identified by a random number identification. The name of the subject will not be attached to the identification number.

Voluntary Nature of the Study

Participation in this study is voluntary. Your decision whether or not to have your child participate will not affect your current or future relations with the University of Minnesota or Thistledew Camp, your child's probation officer and/or social worker; nor will your decision have any effect on your child's legal / probationary status. If you decide to participate, your child is free to not answer any question or withdraw at any time without affecting those relationships.

Contacts and Questions

The researchers conducting this study are: Dr. Keith Russell and Michael Walsh. You may ask any questions you have now. If you have questions later, **you are encouraged** to contact them at the University of Minnesota, (612-626-4280), krussell@umn.edu or mwalsh@umn.edu.

If you have any questions or concerns regarding this study and would like to talk to someone other than the researcher(s), **you are encouraged** to contact the Research Subjects' Advocate Line, D528 Mayo, 420 Delaware St. Southeast, Minneapolis, Minnesota 55455; (612) 625-1650.

You will be given a copy of this information to keep for your records.

Statement of Consent

I have read the above information. I have asked questions and have received answers. I consent to have my child participate in the study.

Signature of parent:_____Date: _____

or guardian

Signature of Investigator:_____Date: _____

IRB Code 0704S06802 *Revised May 15, 2008*

Appendix E: Youth Ascent Form

Youth Client Assent Form

We are asking if you would be willing to take part in a project that looks at your participation in the Wilderness Endeavors Program, and how this program may help you in life after you complete the program. You are being asked to participate in this project because you have been sent to Wilderness Endeavors by your parent(s), probation officer, or your social service worker. The project is being done by Dr. Stephen Ross and Michael Walsh at the University of Minnesota. If you agree to participate in the project, we will ask you questions about how you deal with and react to hard times and difficult situations, and how you feel about your future. We will want to know how you answer these questions before you participate in the Wilderness Endeavors Program, and then after you have completed the program. You may answer the questions anyway you like, and no one will know your answers from any other kids in the project. We are asking these questions so we can better understand how the program works for kids just like you.

We are asking that you complete 3 short surveys, which will take you approximately 30 minutes to complete. We are asking that you fill these out when you arrive at Thistledew Camp, and then again after you finish the Wilderness Endeavors Programs. The names of the surveys are:

1) Adolescent Resilience Scale – This survey looks at how you respond to difficult situations.

2) Self-Competence Scale – This survey looks at how you feel about yourself.

3) Questions about your goals – This survey looks at your future goals you have for yourself.

Examples of the most difficult question include:

1) Please rate your ability to have satisfying relationships with your family.

2) If I love someone, I can put up with them hurting me.

After you graduate from the Wilderness Endeavors Program, we will contact your probation officer after 6 months to see if you have made any changes in your life, and to see if you continue to be on probation, or in trouble with the law. We will ask your probation officer questions to get their opinion on why they think you are being successful, or why you continue to remain on probation.

You can ask any questions that you want about the project to your parents or guardians, Thistledew Camp staff, or the people from the University of Minnesota. If you do not like any of the questions, you can choose not to answer them or to quit the project at any time. You simply have to tell any of the Thistledew Camp staff, and they will help you. Being in this project is totally up to you, and no one will be mad at you, and you will not be in trouble with your probation officer or social worker if you do not want to do it.

By signing here it means that you have read this paper, or that someone has read the paper for you, and that you agree to participate in the project. If you do not want to be in the project, then do not sign the paper. Remember, being in this project is up to you, and nobody will be mad or upset with you if you do not want to participate.

Signature of participant _____

Signature of person explaining the project _____

Date _____

Appendix F: Perceived Competence of Functioning Inventory (PCFI)

Perceived Competence of Functioning Inventory (PCFI)

Please rate your PRESENT ability to function in the areas described below. Check the box that best describes you at the present time. For this questionnaire, work is defined as employment, school, household chores, volunteer work, and so forth.

Your ability to:	**Poor**	**Fair**	**Good**	**Very Good**	**Excellent**
1. be assertive (being bold or confident; standing up for your rights).	☐	☐	☐	☐	☐
2. work towards personal goals	☐	☐	☐	☐	☐
3. believe in yourself to do things well	☐	☐	☐	☐	☐
4. perform activities of daily living	☐	☐	☐	☐	☐
5. feel secure with others	☐	☐	☐	☐	☐
6. have satisfying relationships with family	☐	☐	☐	☐	☐
7. feel good about yourself	☐	☐	☐	☐	☐
8. experience satisfaction with your personal life	☐	☐	☐	☐	☐
9. manage feelings of anxiety and depression	☐	☐	☐	☐	☐
10. experience life as meaningful	☐	☐	☐	☐	☐
11. cope with problems without using	☐	☐	☐	☐	☐

drugs / alcohol

12. think positive thoughts ☐ ☐ ☐ ☐ ☐

13. trust others ☐ ☐ ☐ ☐ ☐

14. control anger ☐ ☐ ☐ ☐ ☐

15. accept yourself ☐ ☐ ☐ ☐ ☐

16. feel close to others ☐ ☐ ☐ ☐ ☐

Appendix G Adolescents Resilience Attitudes Scale (ARAS)

Adolescent Resiliency Attitudes Scale (ARAS)

We are interested in how you view yourself. Please be as honest as possible when rating each of the statements below. There are no right or wrong answers. In the blank to the left of each statement below, write in the number that best describes how you feel about that statement. Please read each item carefully and rate how strongly you agree or disagree with it using the following scale:

1 = Strongly disagree **2** = Disagree **3** = Undecided **4** = Agree **5** = Strongly agree

____ **1.** Most of the time I am not sure how my parents or those who take care of me will react.

____ **2.** I avoid accepting responsibility for other people's problems.

____ **3.** When others think badly of me, there's probably a good reason for it.

____ **4.** I try to notice signals from other people that spell trouble.

____ **5.** It doesn't do any good to try and figure out why things happen.

____ **6.** Often I find myself taking responsibility for other people's problems.

____ **7.** I have not learned how to stay out of the way of grown-ups when they are doing or saying things that scare me.

____ **8.** I am good at figuring out why people act the way they do.

____ **9.** There are only a few people that I can really count on.

____ **10.** I try to figure out why some of my friends are not good for me and then I try to find different friends.

____ **11.** It's hard for me to believe that I'll ever find a good friend.

____ **12.** I am good at making new friends.

____ **13.** I can't do anything about whether people like me or not.

____ **14.** I am good at keeping friendships going.

____ **15.** I am shy around people I don't know.

____ **16.** I am able to love others and be loved by them.

____ **17.** I know how to get grown-ups to spend time with me.

____ **18.** It's beyond me how most things work.

____**19.** I have hobbies or other activities that are important to me.

____ **20.** I don't keep making the same mistakes.

____ **21.** I can learn from my past mistakes and use that information to make the future better.

____ **22.** I am successful in taking care of myself and getting my needs met.

____ **23.** I often get really frustrated when dealing with problems and can't figure out what to do.

____ **24.** There are few things that that I am good at doing.

____ **25.** I don't like to try to find out how things work.

____ **26.** I do enough to get by, but not much more.

____ **27.** No matter what happens, if I keep trying I'll make it.

____ **28.** There are things I can do to make my life better.

____ **29.** Sometimes, its hard, but I don't let things keep me down.

____**30.** Even if bad things happen, I can deal with them.

____ **31.** No matter how hard I try, I can't make things right.

____ **32.** When I fail a test, I want to know what I did wrong.

____ **33.** I sometimes keep making the same mistakes.

____ **34.** I'm good at making the best of problems at school or home.

____ **35.** It's hard for me to bounce back from problems.

Appendix H: Children's Hope Scale (CHS)

Questions About Your Goals

The six sentences below describe how children think about themselves and how they do things in general. Read each sentence carefully. For each sentence, please think about how you are in most situations. Place a check in the box that describes YOU the best. For example, place a check in the box "None of the time" if this describes you, Or, if you are this way "All of the time," check this box. Please answer every question by putting a check in one of the boxes. There are no right or wrong answers.

1. I think I am doing pretty well.

☐ ☐ ☐ ☐ ☐ ☐

None of the time | A little of the time | Some of the time | A lot of the time | Most of the time | All of the time

2. I can think of many ways to get the things in life that are most important.

☐ ☐ ☐ ☐ ☐ ☐

None of the time | A little of the time | Some of the time | A lot of the time | Most of the time | All of the time

3. I am doing just as well as other kids my age.

☐ ☐ ☐ ☐ ☐ ☐

None of the time | A little of the time | Some of the time | A lot of the time | Most of the time | All of the time

4. When I have a problem, I can come up with lots of ways to solve it.

☐ ☐ ☐ ☐ ☐ ☐

None of the time | A little of the time | Some of the time | A lot of the time | Most of the time | All of the time

5. I think the things I have done in the past will help me in the future.

☐ ☐ ☐ ☐ ☐ ☐

None of the time | A little of the time | Some of the time | A lot of the time | Most of the time | All of the time

6. Even when others want to quit, I know that I can find ways to solve the problem.

☐ ☐ ☐ ☐ ☐ ☐

None of the time | A little of the time | Some of the time | A lot of the time | Most of the time | All of the time

Appendix I: Six Month Follow Up Form

Submit by Email

Wilderness Endeavors Program Evaluation

Six month participant follow up

Dear Probation Officer;

Six months have passed since your client graduated from the Wilderness Endeavors (WE) Program. At this time, we would like to evaluate the probationary status of the WE student, as well as the participant you chose as a match (if applicable). Evaluating participant outcomes is without a doubt the most important part of this study, and your assistance is greatly appreciated.

Please answer the questions on the following two pages. Here are the instructions to email:

1) Click "Submit by Email" button at the top of this page.
2) A "Select email client" box will appear. Desktop email application is the default choice, and the one you should use. Click ok.
3) Another box will appear. Click "send data file."
4) An "email confirmation" box will appear. Click close. A email composition window will be generated with the data file attached. Send the email.

On behalf of the Thistledew Programs staff, we thank you for helping us to evaluate outcomes of the Wilderness Endeavors program.

WE Participant

1) Probationary Status: (Check all that apply)

- ☐ No new offenses since graduating the WE program
- ☐ Convicted of / charged with a new offense(s)
- ☐ Placed in a new program or facility

Please describe placement:

2) If convicted of a new offense(s) please describe each offense since graduating WE:

3) Is this person currently employed?

- ☐ Yes
- ☐ No

4) Is this person currently in school / community based GED program?

- ☐ Yes
- ☐ No
- ☐ Obtained GED / HS Diploma since graduating Wilderness Endeavors

Match Participant ID Code:

1) Probationary Status: (Check all that apply)

- ☐ No new offenses in the past six months
- ☐ Convicted of / charged with a new offense(s) since matched with the WE participant
- ☐ Placed in a new program or facility

Please describe placement:

2) If convicted of a new offense(s) please describe each offense:

3) Is this person currently employed?

- ☐ Yes
- ☐ No

4) Is this person currently in school / community based GED program?

- ☐ Yes
- ☐ No
- ☐ Obtained GED / HS Diploma since matched with WE participant