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Characterization and Comparative Analysis of Adolescents Admitted to Therapeutic Wilderness Programs and More Traditional Treatment Settings

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CHARACTERIZATION AND COMPARATIVE ANALYSIS OF ADOLESCENTS ADMITTED TO THERAPEUTIC WILDERNESS PROGRAMS AND MORE TRADITIONAL TREATMENT SETTINGS

by

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ABSTRACT

CHARACTERIZATION AND COMPARATIVE ANALYSIS OF ADOLESCENTS ADMITTED TO THERAPEUTIC WILDERNESS PROGRAMS AND MORE TRADITIONAL TREATMENT SETTINGS

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Therapeutic Wilderness Programs (TWP) are a fast growing segment of the adolescent treatment arena. Scientific literature on TWPs shows that researchers have skipped the natural step of identifying the population of adolescents admitted for treatment. To fill the gap in TWP research, this archival study identified demographic features and distinctive foundational aspects that represent the TWP treatment population. Comparison samples were taken from two TWPs, two residential treatment centers (RTC) and an outpatient therapy clinic (OP). At each of the five sites, basic descriptive data from client records were combined to represent multiple characterizing indexes that are in common usage for description of adolescent clinical populations. Data from TWPs (n = 150) were compared to both RTC (n = 152) and OP (n = 154) data in

order to identify statistical and clinical differences across settings (primarily using χ^2 Cramer's *V)*. Results showed significant differences ($p < .05$) between TWP admits and RTC/OP admits in demographic (e.g. age; adoptive status), school related behavioral problems, nature and type of primary diagnoses, treatment history (psychiatric and psychological), psychosocial history, legal issues, substance use, and family dynamics descriptors. A number of differences (TWP vs. OP and TWP vs. RTC) showed a moderate to large effect size (Cramer's $V \geq .3$). Important clinically significant differences include: the nature of current primary disorder (TWP admits show more externalizing); presence of a mood disorder (RTC/OP present with more mood disorders); attendance at previous outpatient treatment (RTC/OP access outpatient treatment more); admittance to previous inpatient treatment (TWPs more commonly had a single inpatient admission; RTC more commonly had more than one inpatient admittance); family communication and family adaptability (TWPs family communication and family adaptability rated lower). These client features appear to be distinct identifiers of TWP admits when compared to RTC/OP admits. Other characterization indices emerged as identifiers between TWP vs. OP (e.g. school suspension; diagnostic severity; and arrests) and TWP vs. RTC (e.g. suicidal ideation; self mutilation; and prescribed psychiatric medication) separately. Implications for researchers, clinicians, educational consultants, and families are discussed.

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INTRODUCTION

It has long been recognized that various settings may have particular benefits for behavioral and psychological change. The most widely studied of these are outpatient versus inpatient settings, and many of the advantages and disadvantages of each are now well recognized, as well as the types of persons and conditions to most likely find services in each. For example, among adolescents with severe problems there appears to be a trend toward inpatient placements where the environment can be controlled, with the parallel recognition that the artificial nature of the setting might impair transfer of gains, upon release, to the external environment. Another setting, the focus of this proposed study, is the outdoors. For example, camps of wide variety exist because of a belief that outdoor activities are attractive to adolescents and may allow for special challenges that might add to and expedite therapeutic activities, as well as generalize better to home environments. Perhaps the fastest growing segment of therapeutic offerings in outdoor settings are Therapeutic Wilderness Programs (TWP), where the literal and metaphorical struggle with natural survival forces are maximized by the primitive setting.

TWPs are a focus of scientific studies since the 1950's (Weston, Tinsley, & O'Dell, 1999). The scientific literature shows that researchers have primarily emphasized outcome. Unfortunately, the literature also shows that research has failed to characterize the population of adolescents admitted and treated in these programs. Studies that characterize the TWP population are not simply scarce, but absent from the scientific literature. Ideally, research follows a systematic and natural course where, in

the early stages, studies provide an identification of the treated population on multiple indices or domains. After those common domains of the treated population are identified more methodological, specialized, and pointed analysis can occur. Without those identified common domains, studies in the particular area tend to provide nebulous results with tenuous meaning. Characterization, as part of a foundation of research, identifies pertinent aspects of a treatment population in order to provide a fluid and crucial link to later studies which focus on higher order, influential factors such as the process of change. Characterization as an early step would be necessary in order to answer Kazdin's (1999) call to find out "How is change produced, what are the processes involved, and what procedures activate, augment, and accentuate those processes" (p. 534 – 535).

TWP characterization has been overlooked. Research within TWPs has primarily focused on outcome without identifying who is served within TWPs. Although there are anecdotal accounts of TWP general population features, TWPs have essentially and scientifically operated in the dark as to the adolescent clientele they serve. Only when the population is adequately characterized is it possible to more rigorously evaluate the body of literature that has been published (mostly outcome studies thus far with TWP) and extend said analysis further (i.e. mechanisms of change). Moreover, characterization provides the means for enhanced clinical case conceptualization, a more informed understanding of what and who is treated, and a more centered and specified treatment approach. Characterization, as a way to mend the fractured TWP system, is the purpose of the current study. Defining such a population, for this current study, is achieved

through identifying the demographic features and possibly distinctive foundational aspects that represent the treatment population in TWPs.

Characterization of the Child/Adolescent Treatment Seeking Population

The population of interest for the current study is sampled from the adolescent mental health service seeking population. Characterization studies have shown that approximately 20% of youth, ages 9–17, suffer from a diagnosable emotional or behavioral disorder at some time (Friedman et al., 1996, 1998), and approximately 15% of children of all ages encounter problems serious enough to warrant professional intervention (Tuma, 1989). Other studies have shown that as little as 3.1% and as much as 7.5% of adolescents are referred for mental health services (Kataoka et al., 2002; Saunders et al., 1994; Sourander et al., 2001; Zwaanswijk et al., 2003). Broad characterization studies of children/adolescent mental-health-service utilization tend to show inconsistencies in identifying those who are served. Certain studies suggest that characteristics which affect child service utilization patterns include the age of the child, "internalizing" disorders, "externalizing" disorders, gender, academic problems, child physical illness, total behavior problems, parental use of mental health services for psychiatric problems, self-reported total competence, impairment, parental perceived burden, family stress, suicidal ideation, informal help-seeking, parental marital status, medical checkup in the last year, and the interaction between race and socioeconomic status (Angold et al., 1998; Bird et al., 1996; Garralda & Bailey, 1988; John et al., 1995; Leaf et al., 1996; Sourander et al., 2001; Staghezza-Jaramillo et al., 1995; Verhulst & Van der Ende, 1997; Zahner & Daskalakis, 1997).

Other studies show that children with specific disorders, such as "externalizing" disorders (e.g., attention-deficit hyperactivity disorder, conduct disorder, and oppositional defiant disorder), tend to be referred to and use mental health services much more often than children who are not diagnosed with “externalizing” disorders. Additionally, in earlier studies "internalizing" disorders (e.g., depression and anxiety) were not shown to be associated with service use (Anderson et al., 1987; Cohen et al., 1991; Koot & Verhulst, 1992). Furthermore, children with a lone diagnosis on the affective disorder spectrum were shown to be less likely to receive specialty mental health services when compared to children with disruptive disorders (Anderson et al., 1987; Cohen et al., 1991; Koot and Verhulst, 1992). “This pattern suggests that children with internalizing problems are underidentified or underreferred” (Wu, et al., 1999, p. 1087). Other studies have focused on diagnoses across treatment placements (residential, outpatient, and inpatient). Researchers have identified that 60% – 90% of youths seen across treatment facilities (outpatient, residential, inpatient) have at least one comorbid mental disorder (primarily substance use/dependence disorder comorbid with Conduct Disorder or Oppositional Defiant Disorder) and report severe mental health problems (Grella, Hser, Joshi, & Rounds-Bryant, 2001; Jainchill, De Leon, & Yagelka, 1997; Jaycox, Morral, & Juvonen, 2003).

Although there is wide agreement that services should be provided to children with mental health problems, disagreements abound as to the type and level of care that would provide the most suitable treatment for particular presenting problems (Bates, English, & Kouidou-Giles, 1997). The primary mandate is to provide care through the least restrictive means. Front-line intervention in such cases would ideally be family or

community based and would likely include, among other things, a multi-disciplinary treatment team, Multisystemic therapy (Chamberlain, 1994; Eber, Sugai, Smith, & Scott, 2002; Borduin, Henggeler, & Manley, 1995; Schoenwald & Rowland, 2002), and "school-based wrap-around support" (McCurdy & McIntyre, 2004, p. 139). Approaches of this kind allow the young person continued exposure and access to "normalized environments" in the community where pro-social interactions may take place. However, clinicians who refer adolescents for treatment have been shown to use vastly different standards in determining where youths may be placed in the mental health service system, such as outpatient care, psychiatric inpatient units, residential treatment programs, and/or TWPs (Burns, 1990; Wells, 1988, 1991). Of note, Burns (1990) observed, on a clinical level, few differences between children in an inpatient psychiatric facility and children in outpatient psychotherapy even with the significantly varied restrictiveness and treatment intensity across settings. In spite of the primary goal of least restrictive treatment, then, placement decisions appear not to rely on any clear evidence of where clients are best served. Characterization of the adolescent clientele involved in treatment can provide those who place young people in treatment a more informed assessment of the most beneficial placement or treatment option. Identifying attributes of those placed in said programs does not directly suggest that said programs are efficacious in the treatment of the identifying attributes. Rather, greater understanding of those who are referred for placement in said programs allows for more particular and targeted future studies. Such studies may examine whether biases in referring agents are justified, and if the efficacy findings are bolstered by research on those who are commonly referred versus those who are rarely referred.

Therapeutic Wilderness Programs as a Treatment Option

As a distinct part of the mental health service milieu and a particular step on the restrictiveness and treatment intensity spectrum, TWPs have become more clinically, scientifically and publicly visible (Shapiro & Grodner, 2005). This wide acceptance is reflected in a recent reality-television show, which tracked the therapeutic progress of a group of adolescents in treatment. These wilderness programs are also termed outdoor behavioral healthcare (OBH) and adventure therapy (AT). Although wilderness therapy has been utilized for adults, this author has chosen to focus on treatment for the adolescent population. Wilderness program sites for adolescents appear to be somewhat more established and seemingly more therapeutically inclined than wilderness programs for adults. Similarly, wilderness programs for adolescents have proliferated in this area of the country over the last 10 – 15 years.

Annually, parents or primary caregivers who seek treatment for adolescents through these programs have numbered in the 10,000's (Russell, 2003). Unfortunately, the dearth of studies in this area provide only anecdotal evidence which suggests three points: (a) families of clients admitted to these programs tend to seek varied services; (b) those served by TWPs appear to encompass a wide spectrum of mental health and behavioral difficulties; and (c) a wide spectrum of intervention models and techniques have attempted to address the difficulties with which these adolescents present.

In principle, TWP treatment appears to offer an alternative or supplement to outpatient (least restrictive) care. When used as a supplement, placement in the TWP often occurs after a period of limited or non-response to outpatient care. Within the spectrum of increasing treatment intensity, TWPs may serve as a less restrictive and

shorter duration away-from-home treatment option compared to residential care. However, TWPs may also serve as a gauge to therapeutic response, an extended assessment period, or an impactful experience to prepare the young person for a higher level of supportive care (residential treatment center, therapeutic boarding school, clinical boarding school, etc.), such as by reducing treatment resistance or the like.

In spite of the logic regarding its place in treatment, the data is not available in the scientific literature to identify either the type of adolescent admitted to TWPs or other client factors (such as pre-post treatment resistance or previous treatment failure). Anecdotal accounts, such as the proposed profile by Marx (1988) of the adolescent who presents for treatment in such programs, appear to be the only population characterization information available. Marx (1988) profiled these adolescents by the following:

> "… a male between 13 and 15 years of age with a history of abuse and neglect; a history of theft, truancy, drug use, arson, vandalism, assault, and promiscuity; intensely physical behavior characterized by impulsivity, recklessness, destructiveness, and aggression; relatively weak verbal skills; interpersonal relationships based not on mutual trust but on manipulation and exploitation" (Marx, 1988, as cited in McCord, 1995).

History of TWP

Historically, TWP's appear to have emerged from a melding of two areas: psychiatric treatment in hospitals, and outdoor education for schools and the military. Both areas appear to have started an outdoor focus approximately the same time in the early 1900's (Jones, Lowe, & Risler, 2004).

Tent therapy. Psychiatric treatment appears to have launched into the outdoor experiential setting with "tent therapy" around the early 1900's (Caplan, 1974).

Treatment of this manner, more stumbled upon than intentional, involved certain psychiatric hospitals establishing tent wards on their grounds. The catalyst for "tent therapy" was observed at the New York Asylum (NYA), and the Agnew Asylum (AA) in San Francisco. At NYA, overcrowding and fear of infection forced the asylum director to house those patients with tuberculosis in tents on the lawn. Outdoor life for these patients was described as having a most beneficial result where improvement was seen in physical, mental, and behavioral health (Caplan, 1974). "Tent therapy" began at AA with the San Francisco earthquake of 1906. Much of AA was destroyed and many patients were trapped in the rubble. Tents were constructed for shelter and the able patients were included in forging rescue efforts to free those still trapped and caring for the wounded. Practitioners noted that patients were assiduously committed to the work during the catastrophe and were getting along peacefully when not confined to the building (Caplan, 1974). Programmatic success was anecdotally attributed to small staff to patient ratios, small group interpersonal interactions, and the outdoor atmosphere (Caplan, 1974; Kaplan & Reneau, 1974). "Tent therapy" as an intervention ultimately suffered from the common problems within asylums, those being understaffed and overcrowded, and was terminated as an on-site therapeutic augmentation (Caplan, 1974).

Outdoor education. Outdoor adventure-based education programs started with Dr. Kurt Hahn who is credited to have developed the first program for a German school in the early 1900's and later aided in the development of outdoor survival-training for the British in World War II (Berman & Anton, 1988; Jones, Lowe, & Risler, 2004). Spring-boarding from the success of his work, Dr. Hahn eventually founded Outward Bound, an "educational program that incorporates adventure-based programming in a wilderness

setting" (Jones, Lowe, & Risler, 2004, p. 55). Outward Bound's success soon prompted "widespread generalization and extension of the program's concepts [experiential learning and such] for other purposes" (Berman & Anton, 1988, p. 42). This generalization has burgeoned into wilderness experience programs where a recent article by Russell (2003) suggested that there are over 100 TWP, OBH, and AT programs in operation across the country.

Definitions

Therapeutic wilderness programs. With numerous programs, naturally, comes diversity in approach. Wilderness treatment as a term in the literature could suggest approaches as varied as participation in an experiential boot camp of sorts, a psychiatric hospital sponsored multiple-day-camping trip for residents, or a 12-month survival oriented course (Russell, 2003b). With the variations across program practices, dissimilar activities utilized in treatment, and the varied training and qualifications of staff members, generalizable results through research have been difficult (Jones, Lowe, & Risler, 2004).

Possibly due to the past connection with military training, TWPs are often fallaciously linked in the popular media to treatment approaches based on military style tactics (Krakauer, 1995). Most programs, as research suggests, build their treatment models on more basic therapeutic approaches that promote self-discovery and empathy (Bandoroff & Scherer, 1994; Davis-Berman & Berman, 1994; Rogers, 1961; Russell, 2000; Russell & Phillips-Miller, 2002) Even so, wilderness treatment is considered much too broad of a definition and scope for what may be accomplished by the current study,

and there are no presumptions in believing that this study is definitive in classifying the broad term of wilderness treatment.

Russell (2003b) has well defined the primary commonalities on which TWP/OBH/ATs are based:

> "OBH can be defined as those therapeutic programs that utilize outdoor settings in which adolescent participants enroll, or are placed in the program by parents or custodial authorities concerned for their well-being. The practice of wilderness and adventure therapy (an integration of traditional psychotherapeutic practice and wilderness and adventure programming) generally guides the treatment process (see Davis-Berman & Berman, 1994; Gass, 1993; and Russell, 2001 for review of wilderness and adventure therapy). This process typically includes identifying and changing destructive and dysfunctional problem behaviors exhibited by adolescents. OBH treatment includes individual and group therapy under the supervision of licensed professionals and an established program of educational and therapeutic activities. OBH programs focus client behavioral assessment and intervention by immersing participants in an unfamiliar outdoor environment, engaging them in group-living with peers, and facilitating the learning of primitive and/or outdoor skills to foster personal and social responsibility and emotional growth of clients" (p. 323 - 324).

Clients. Although characterization studies are not available to define the adolescents who utilize TWPs, the TWPs themselves have proposed aspects about the young people who are admitted into treatment. A review of four websites from separate TWPs yielded a list of common diagnoses with which the admitted youth present. These

include: Mood Disorders, Anxiety Disorders, Substance Use/Addiction, Reactive-Attachment, ADHD, Oppositional Defiant Disorder, Conduct Disorder, Adjustment Disorders, Processing Disorders (Visual, Auditory), mild Eating Disorders, Bereavement, Asperger's, Learning Disorders, Parent-Child Relational Problem, and Identity Problem (Logan, 2005a; Salisbury, Kay, Peterson, & Peterson, 2005; Thalman, 2005). These websites further identified common issues that admitted adolescents struggle with: Anger, attachment issues, sexually acting out, identity issues, manipulation fueled by high IQ, attention, learning challenges, gender specific issues, family conflict, self-mutilation (cutting), social skill deficits, non-verbal learning disorders, adoption, academic failure or underachievement, and entitlement (Logan, 2005a; Thalman, 2005; Salisbury, et al., 2005). One particular TWP reportedly

> "offers help to families with troubled teens, ages 13 to 17 years old, who struggle with a variety of emotional and behavioral issues such as teen depression, oppositional defiant disorder, and learning disabilities. These issues negatively affect school performance, socialization, self-esteem, and resilience. Typical students have suffered from low self-esteem, teen depression, substance abuse, isolated themselves, expect instant gratification, or act entitled. They have often been found to be self-medicating, are battling with parent-child conflict and failing to respond to limits and rules" (Logan, 2005a).

TWP Processes

An area of research that has been accorded limited coverage in the literature is how wilderness therapy accomplishes results. Russell and Philips-Miller (2002) focused on process related outcome for TWPs by utilizing a "multi-site case study approach to

investigate the wilderness therapy process in order to explore how it affects change in problem behavior of adolescent clients" (p. 417). A total of twelve adolescent clients with average age of 17 were chosen from the four programs (three client case studies for each program) based on a "randomly selected admittance date" (p. 417). Participants were from five different states around the nation and had varied socio-economic backgrounds; nine of the clients were male and three were female. "A period of seven-to-ten days was spent in the field observing the three client cases at each program as participant observer… [and] a total of 21 days was spent gathering data at each individual program" (p. 418). Clients were interviewed after treatment in a format and presentation to encourage "thought and reflection on their experience" (p. 418). In addition to interviewing the clients, a treatment team and program staff clinical debriefing was conducted where both staff and treatment team were queried about if the client had been helped and what factors may have initiated or fed client improvement. Parents were also interviewed about any benefits of treatment. "Non-numerical unstructured data indexing, searching, and theorizing" theory-building program was used to compile the qualitative data (p. 420). Client data were first analyzed and coded independently from others and then merged to find common outcome factors and connections of core processes.

Data analysis suggested what was called "four key process findings (Relationship with Counselor and Therapist, Peer Dynamic, Facilitate Reflection on Life Through Use of Solo, and Challenge and Structure of Process)" (p. 433). Two of the four themes, peer dynamic and facilitate reflection on life through use of solo, have not generated much research in the literature thus far. Russell and Phillips-Miller (2002) called for more research in this area and suggest that certain types of adolescents, such as those with

depressive qualities, may identify different themes of change and with such information therapy could "maximize outcomes from the intervention" (p. 435). As noted, maximum outcome for particular interventions may more readily be brought about through characterization. Indeed, their suggestion is a conspicuous reminder that client variables may be critical in understanding the value of various therapeutic processes. Such client variables, found and elaborated upon through characterization, allow for greater understanding of client types utilizing these services.

TWP Research on Outcome

Studies with control groups. Research has been conducted on TWPs since the 1950's, and from early on the main focus was treatment outcome (Weston, Tinsley, & O'Dell, 1999). Recidivism has long been an important factor in outcome results and seemed to be the primary factor of outcome studied in the 70's through mid 80's (Jones, et al., 2004; Williams, 2000). Broad anecdotal statements by Golins (1978) such as, "Across the board these programs seem to be successful… we see lowered rates of recidivism," were backed up with empirical evidence from studies such as the one conducted by Wright (1983, p. 26). As one of the more respected studies due to the level of methodological rigor, Wright (1983) randomly assigned 120 adolescent offenders to either a twenty-six day therapeutic Outward Bound course (treatment group) or the routine treatment of institutionalization or parole (control). A nine-month follow-up showed that 20% of the treatment group compared to 34% of the control group recidivated. After a year, the treatment group held at 20% recidivism where the control group rose to 42%, and with the five-year follow-up 38% of the treatment group in comparison to 58% of the control group had recidivated (Wright, 1983).

Recidivism, along with other outcome factors, was the focus of a follow-up study conducted by Adams (1970). His study compared non-hospitalized adolescents (comparison group) with 19 psychiatric inpatient adolescents (treatment group) who participated in wilderness programming for thirty days. Research information was acquired twenty-eight months after treatment and results showed a 15% re-hospitalization rate for the treatment group (1970). Results such as this appear promising yet methodologically there is uncertainty due to unreported baseline re-hospitalization rates (Davis-Berman & Berman, 1989).

Less promising are studies by Winterdyk and Roesch (1981) and Castellano and Soderstrom (1992). They targeted 30-day wilderness treatment programs and recidivism of adjudicated adolescents. Both studies examined the effectiveness of particular outdoor programs, one being the ACTION program (Accepting Challenge Through Interaction with Others and Nature) and the other being the Spectrum program. Both had comparison groups of 30 probation, or normal intervention adolescents and 30 treatment group matched samples participants. Reconviction rates were utilized as an outcome measure in both studies, with Winterdyk and Roesch also adding the Jesness Inventory as a measure (Jesness, 1972). Two positive changes were found on the Jesness Inventory Subscales for the Winterdyk and Roesch treatment group, but these changes were not maintained through the four to six month follow-up. Additionally, reconviction rates showed no differences on follow-up, although type of offense did suggest that the treatment group showed a trend toward those crimes that were deemed less serious. Castellano and Soderstrom (1992) found that their treatment group showed arrest reduction rates which lasted about one year. Beyond the first year follow-up, effect

decay occurred to where positive impacts were no longer apparent (1992). This finding was similar to what Jones, Lowe, and Risler (2004) found in a more recent study.

When considering methodological rigor, one of the strongest studies of wilderness program effects on recidivism comes from the data collected on 120 boys who were adjudicated into the Massachusetts Division of Youth Services (DYS) in the Spring of 1966 (Kelly & Baer, 1971; Nold & Wilpers, 1975; Willman & Chun, 1973). Participants were aged 15-17, in good health, had no histories of severe psychopathology, violent assaults, or sexual offenses and were matched into two groups based on IQ, age, race, religion, number of prior correctional commitments, instant offense, and area of residence (Kelly & Baer, 1971). Those in the treatment group attended one of three 26-day Outward Bound programs and the comparison group was maintained by the DYS which included institutionalization or immediate parole. Recidivism at the one year follow-up, which was defined as re-institutionalization in a juvenile or adult facility for a new offense, showed a 20% rate for the treatment group and 42% rate for the comparison group. Not only were there differences between comparison and treatment group, but there were rather wide program effects across the three wilderness programs (recidivism rates of zero, eleven, and forty-two percent across the three programs). Similarly, program effects were shown to vary depending on the demographic data of the participant, where those participants who were chronic runaways (defined as running three or more times), younger than 12.8 years at initial court appearance, and came from single-parent families showed less positive response to Outward Bound programming (1971). This appears to be the first study to have matched wilderness treatment outcome

to client characterization data in a possible attempt to decipher what populations show the most beneficial response to this particular type of intervention.

Willman and Chun (1973) continued to follow the participants in the Kelly and Baer (1971) study and conducted a follow-up study at the 19 to 24 months period. Program effects were shown to be durable at the time of the Willman and Chun (1973) study. However, Nold and Wilpers (1975) showed that each year after that, the differences in recidivism between the two groups narrowed to where there was no significant difference at the end of five years. Although the treatment group recidivism rates were shown to be transitory, particular aspects of the treatment group participants merit note. Two identifiers were suggested to account for a 60% difference in recidivism between participants in the treatment group. Those participants who did not complete program requirements during their stay or who did not exhibit personal growth were shown to have a much higher recidivism rate than those who did (90% vs. 30%; Baer, Jacobs, & Carr, 1975). Simply participating in a wilderness program, according to this data, would therefore not predict recidivism as well as actual performance within the program.

Meta-analyses. More recently, Hattie, Marsh, Neill, and Richards (1997) and Cason and Gillis (1994) each conducted a meta-analysis on wilderness treatment. Hattie et al., (1997) located 96 published studies to incorporate into their research with approximately 12,057 unique participants. Cason and Gillis (1994) based their findings on 43 studies and focused solely on studies of adolescent populations. Although 75% of the participants in the Hattie et al., (1997) meta-analysis were classified as adults or university students, there remains pertinent information to present for the purposes of this

study. Hattie et al., (1997) found an "overall immediate effect size" of .34 and a follow-up effect size (ES) of .17 (p. 55). They noted:

> "If the adventure program effects are long lasting, then follow-up studies would be expected to produce mean effect sizes of zero, indicating that the initial effects have been maintained. An effect size greater than zero would indicate that the effects continued to increase [post treatment]. The typical follow-up effect of adventure programs is positive (M= .17, over mean of 5.5 months)… It is critical to note that this effect size of .17 is in addition to the .34 that accrued from the program, and that these effect sizes are additive. That is, a long-term effect size of .51 from precourse to follow up can be expected. The effects of adventure programs continue to increase over time, and… the effects are maintained over considerable time" (p. 55-57).

This immediate overall ES was similar to what Cason and Gillis (1994) found (.31). When considering recidivism as a particular factor in the meta-analysis, Hattie et al., (1997) observed a program ES of .55 and a follow-up ES of .10.

Another similarity between the Hattie et al., (1997) and the Cason and Gillis (1994) meta-analyses suggests that longer programs result in larger ES. According to the findings of Cason and Gillis (1994), treatment ES and the amount of hours spent in treatment showed a .17 correlation. This finding was not supported by the meta-analysis of 28 empirical studies conducted by Wilson and Lipsey (2000). These two researchers found modest overall effects and identified the most significant program variables to be shorter program duration not to exceed 6 weeks, a distinct therapy component, and relatively intense physical activities. Furthermore, Wilson and Lipsey (2000) found a

reduced overall ES (.18) compared to both Cason and Gillis (1994) and Hattie et al., (1997). This modest effect (.18) is different from an earlier meta-analysis conducted by Lipsey and Wilson (1998), where they found weak or no significant effects for wilderness programs focused on juvenile offenders.

Methodological rigor has long been the bane of the outdoor-experience scientific literature (Neill, 2003). Cason and Gillis (1994) readily observed this when they set about to conduct their previously reported meta-analysis. Out of the original ninety-nine total studies found that had been conducted in this area, only forty-three were assessed to be empirically acceptable to be included in the study (1994). Treatment efficacy has been difficult to document due to the limited use of standardized and reliable measures, and small sample sizes (Cason & Gillis, 1994; Davis-Berman & Berman, 1994; Russell, 2003). Even so, research reviews in the literature have long examined outcomes associated with the effects of TWPs on participants (Burton, 1981; Cason & Gillis, 1994; Easley, Passineau, & Driver, 1990; Ewert, 1983, 1987; Friese, Pittman, & Hendee, 1995; Gibson, 1979; Gillis, 1992; Gillis & Thomsen, 1996; Hattie et al., 1997; Levitt, 1982; Moore & Russell, 2002; Moote & Wadarski, 1997; Russell, 1999; Winterdyk & Griffiths, 1984). What is generally reported in the outcome research apart from what has been reported above suggests that participation in TWPs provide intrapersonal development which can include locus of control (more to internal) and self-concept augmentation (Hans, 2000; Hattie et al., 1997), and interpersonal development which can include the development of pertinent and flexible communication and relationship skills (Hattie et al., 1997).

Studies without control groups. Possibly the largest study to date conducted on outcome involved seven programs that utilized outdoor behavioral treatment who were "licensed by their respective state agencies in Oregon, Utah, Arizona, and Idaho" (Russell, 2003a; p. 361). Although the study did not utilize a comparison or control group or random assignment, the sample size of 858 adolescents lends a level of credence to the results. Participants were predominately males between the ages 16 – 18 years old and with DSM-IV diagnoses, the most common being "Oppositional Defiant Disorder (29%), substance disorders (26%), and depression disorders (15%)" (p. 362). Prior to enrollment in the TWPs, 57% of participants had attended outpatient therapeutic services and 17% had been in in-patient treatment. Overall, the treatment periods across all programs averaged a total of 45-days. However, two programs treatment period was three-weeks long. Four programs had a treatment period of eight-weeks, and one programs treatment period was 180 days. With this 180 day treatment program, participants were in the wilderness for the first 21 days of treatment and then moved to a residential facility. Outcome was measured by the Youth-Outcome Questionnaire (Y-OQ) and the Self Report Y-OQ (SR Y-OQ; Burlingame, Wells, Hoag, Hope, Nebeker, Konkel, et al, 1996) administered at admission, discharge, and then 12-months post treatment. Participants and parents of participants were asked to fill out the questionnaires at the aforementioned times.

Results suggested emotional and behavioral symptoms as measured by the Y-OQ and the SR Y-OQ were reduced immediately following treatment. Furthermore, at the 12-month follow-up, according to the scores on the Y-OQ and SR Y-OQ, clients either maintained or improved on what was initiated by wilderness treatment. Russell's (2003a)

results with immediate post treatment symptom reduction were similar to what Cason and Gillis (1994) and Hattie et al. (1997) reported where shorter programs showed less symptom reduction. However, at the 12-month follow-up this difference between long and short treatment programs did not hold. Russell (2003a) found no differences in symptom reduction scores between the shorter and longer programs. He explained that aftercare could have played a factor in the follow-up results, which aftercare services were defined as placement in residential treatment facility/therapeutic boarding school/halfway house outside of primary residence, or inpatient hospital. What seems equivocal with this explanation is that "No significant differences were found in clients that utilized aftercare services and those that did not" (p. 376). Even so, Russell (2003a) suggested that whereas results were not gathered on the degree of therapeutic services that non-aftercare participants utilized, it is unclear "what role aftercare played in all clients in this study" (p. 376).

Russell (2005) attempted to clear up some of the ambiguity of aftercare in his 24-month follow-up with a portion of the sample mentioned above. He utilized a naturalistic research design in this study where he was able to contact 88 parents of his intended sample (61% response rate) and 47 youth (60%) who agreed to participate. "Clearly specified questions using quantitative formats were used to elicit short evaluative responses that were easily and accurately recorded by the [graduate student] interviewers" (p. 212). Responses by the vast majority of parents (80%) and adolescents (over 90%) showed that they believed wilderness treatment proved "effective two years after the process" (p. 212). According to the majority of parents, recovery for their child could not have begun without the wilderness treatment. Cross healing, according to the

parents, also took place in that parents reported the experience as helpful in starting the healing process for the whole family. Within this sample, 85% of the adolescents and families utilized aftercare. Reportedly, the vast majority of parents stated aftercare was crucial to their child's recovery. Russell (2005) indicated that "Many parents who did not utilize some form of aftercare wished they had" (p. 233). Adolescents' views of aftercare tended to be mixed. Even so, Russell (2005) posited three themes according to this data which include the importance of aftercare as a "key component of the overall treatment process," the criticalness of an aftercare plan "developed by [TWP] … that can help parents and youth find the most appropriate aftercare setting," and the complexities of emotions and potential conflict "between parents and their child" with regards to aftercare (p. 234).

Anecdotal distinctive treatment mechanisms offered by TWPs. Seclusion and remoteness are suggested as large factors in the treatment process as identified by TWPs. For example, Salisbury et al. (2005) claim that "the wilderness setting acts as a catalyst that moves students out of their comfort zone" in which it is purported to disallow the adolescent the common distractions of modern society (p. 3). This shift is purported to highlight previous maladaptive coping mechanisms and as such allow students to set such coping mechanisms aside and acquire necessary functional skills to care for themselves (Logan, 2005b).

Another process thought to be distinctive to TWPs is the experience of nature as the force that sets boundaries (Logan, 2005b). Natural lessons of life are said to be experienced and purportedly learned in the context of the natural environment where natural and logical consequences are tied to behaviors and interactions. In this way, it is

suggested that rather than the adolescent being the ‘immovable object’ where everything adapts to him/her, the experience of nature becomes the ‘immovable object’ and the adolescent is intended to vividly experience the dysfunctionality of old coping strategies and purportedly works to adapt and form new tools and insights (Logan, 2005b).

Although the utilization of metaphors as process mechanisms are not exclusive to TWP, the metaphors inherent in the wilderness experience allow for a clear distinction compared to traditional therapy. Therapeutic metaphor has long been linked to bypassing resistance in therapy (Lyddon, Clay, & Sparks, 2001). Wilderness therapy is suggested to be an easily utilized field for metaphors and metaphor can be regularly implemented as one way to bypass an adolescent’s resistance and defenses in therapy (Logan, 2005b). Certain experiences can be used as metaphorical interventions (bow-drill fires, group ceremonies and initiatives, participation in a Native American solo, backpacking, etc.) in hopes that they may bypass defenses to where lessons can be processed at depth and incorporated. Decoding the many metaphors could occur at each individual’s own pace and can also be tied to everyday life.

Experiential process, similar to metaphor, is not unique to wilderness treatment. Even so, by virtue of the live-in-nature experience the adolescent who remains in wilderness therapy is generally required to provide more than just lip service or promises for change. Demonstrating change in the moment and establishing change as enduring over a number of unset weeks or months rather than simple ephemeral alterations (Logan, 2005b).

Summary of Research in TWP

Recidivism as a lone factor in outcome has shown in some research to have an ES of .55 as compared to normal adjudication procedures, yet other studies suggest less or no effect. Additionally, long term results on recidivism generally suggest there is effect decay. Outcome factors across many studies show intrapersonal and interpersonal gains, as well as significant reductions in symptomatology primarily measured by counselor or therapist observations, self-report and/or reports from caregivers. An overall ES, which would include more varied aspects of outcome beyond recidivism, has been shown to be between .18 and .34 with an additive long term ES of .17.

The merits of program length are also questionable, where certain studies show that shorter programs provide the best outcome and other studies suggest longer programs to have the most favorable outcome. The majority of studies, however, suggest that longer programs (more than 28 days) have the best outcome and suggest that some form of aftercare appears to be crucial in order to maintain program benefits. Wilderness treatment mechanisms of change have been identified as: relationship with counselor and therapist; peer dynamic; facilitating reflection on life through use of solo experience; and the challenge and structure of the process (Russell and Philips-Miller, 2002).

Client Characterization Studies in Outpatient Therapy

In considering control groups for treatment setting characterization comparison, the traditional and paradigm comparison group tends to be sampled from the outpatient therapy population. Adolescent outpatient therapy studies are legion and the adolescent clinical population has long been described in archival studies (Epkins, 1995; Speltz, DeKlyen, Greenberg, & Dryden, 1995). Recent pure characterization studies are less

common and yet most adolescent treatment studies feature aspects of characterization. Even so, adolescent outpatient studies where characterization occupies a primary role continue to be published in the scientific literature (Chung & Martin, 2005; Costello, Mustillo, Erkanli, Keeler, & Angold, 2003; Staller, 2006) and continue to be worthy for dissertation subject matter (Lewczyk-Boxmeyer, 2004; Mullen, 2005; Woodward, 2003). Because a sample from the adolescent outpatient population (OP) will serve as a comparison for the present study, it is appropriate to describe what has been identified for the OP population. Three broad categories have here been identified to describe the OP characterization research: general, substance use, and foreign.

General. For the purpose of description, the here labeled 'general' category for OP literature includes studies that, aside from basic demographic factors, focus on such things as diagnosis, psychotropic medication prevalence and adherence to standards, mental health use in a rural setting, mental health use in an urban setting, and family issues such as constellation, cohesion, and adaptability. As Staller (2006) noted, "The most prevalent diagnoses in youths in treatment vary from study to study; disruptive behavior disorders, including attention-deficit/hyperactivity disorder (ADHD), are universally at the top of the list, and affective disorders, anxiety disorders, substance use disorders, learning disorders, and mental retardation follow" (p. 98). Staller (2006) conducted a chart review focused on diagnosis and diagnosis combinations across eight child and adolescent outpatient treatment sites. His sample of 1,292 included patients from age 1 – 18 years where the mean age was identified as 11.9. Data for his study yielded similar figures to what has previously been found (Costello et al., 2003; Vogel & Holford, 1999; Zito et al., 2002). Data showed ADHD to be the most commonly

diagnosed disorder with 43% of the sample. Behavior disorders which included Conduct Disorder, Disruptive Behavior Disorder NOS, and Oppositional Defiant Disorder were shown to occur in 30% of his sample. Depressive disorders of all types were found to be diagnosed in 27% of the sample. Other disorders noted, which include anxiety disorders, adjustment disorders, pervasive developmental disorders, schizophrenia and other psychotic disorders, bipolar disorder, mental retardation, and substance abuse disorders (cannabis, alcohol, and hallucinogen) were diagnosed in 26%, 12%, 6%, 5%, 4%, 1.4%, and 0.5% of the sample respectively. ADHD was shown to be the most common comorbid diagnosis (approximately 33% of sample) with comorbidity following a sequentially decreasing order of behavior disorders, anxiety disorders, and depressive disorders. Staller suggested, "Internalizing and externalizing disorders frequently reside in the same patient, and careful evaluation is needed to look beyond the overt behaviors to discern both internalizing disorders and substance use and abuse" (p. 102).

Internalizing and externalizing disorders were the focus of a study conducted by Zima et al. (2005). More specifically, Zima et al. (2005) centered on adherence to quality of care indicators specific to common internalizing and externalizing disorders. Their "longitudinal cohort study of Medicaid children" collected data from 74 clinics on a sample of 813 youths ages 6 to 17 years old (p. 132). Certain sample characteristics are relevant to note for the proposed study which are as follows: Mean age was 10.6 years; 45% between the ages of 6 – 11; 55% between the ages of 12 – 17; 67% male; 34% white; 30% latin; 24% black; 75% diagnosed with ADHD; 31% diagnosed with Conduct Disorder; 21% diagnosed with Major Depression; 51% showed symptoms above the 75th percentile; 51% showed "functional impairment" above the 75th percentile; 16% were

living outside of the family/caregiver home; and 29% reported a history of sexual or physical abuse (p.136).

Characterization and standard of care consistent with guidelines were aspects of an Anderson and Gittler (2005) study. They gathered chart review data from 17 rural Midwestern adolescent outpatient clinics which clinics focused on either mental health or substance use treatment. Although chart data was collected from 17 clinics their sample size was somewhat low (n = 177) and likely tied to the rural setting (p. 38). Even so, certain sample characteristics are relevant to note for the proposed study which are as follows: Age range was 12 to 18 years; mean age was 15.5 years; 34% were female; 93% were white; 48% were Medicaid eligible; 34% had a solely a mental health diagnosis; 57% had solely a substance use diagnosis; and 16% had both a mental health and substance use diagnosis. Results from their analysis suggested that 64% of adolescents who present with dual diagnosis of mental health and substance use disorders "did not receive treatment consistent with widely supported guidelines" that recommend treatment for both problems (p. 35).

Data from many other studies here classified as "general" studies have been aggregated in an attempt to more robustly define the population. In the studies covered, samples varied in size from 93 participants to 2405 participants with the average being 686 (Cumsille, & Epstein, 1994; Garland, Aarons, Saltzman, & Kruse, 2000; Phares, & Lum, 1997; Pumariega, Glover, Holzer, & Nguyen, 1998; Tolan, Ryan, & Jaffe, 1988). Ages of participants ranged from 6 – 19 years old where the average age of participants ranged from 11.6 – 15 years old. Gender, particularly males as participants, ranged from 45% – 61% of the sample with an average of 51%. Racial composition, particularly

Caucasians as participants ranged from 15% – 89% of the sample with an average being 50%. Black participants ranged from 6% – 83% in the samples and had an average of 37%. Sample participants were noted to come from intact family systems in 32% – 42% of cases, single parent family systems in 13% – 39% of cases (Garland, Aarons, Saltzman, & Kruse, 2000; Phares, & Lum, 1997, Tolan, Ryan, & Jaffe, 1988) and one study noted blended families made up 22% of their participant family systems (Cumsille, & Epstein, 1994). Treatment referral sources were noted to have originated from family members (parents) in 29% – 52% of the cases, school or social services/mental health agencies in 47% – 58% of cases, and the criminal justice system in 9% – 15% of cases (Cumsille, & Epstein, 1994; Garland, Aarons, Saltzman, & Kruse, 2000; Phares, & Lum, 1997, Tolan, Ryan, & Jaffe, 1988).

Across samples, presenting problems were noted to be aggression/conduct/ oppositional in 29% – 31% of cases, affective problems in 10% – 11%, and suicidality/self destruction in 2.4% – 11% of cases. Similarly, one study noted other problems and the corresponding percentage rates as the presenting issues: school 15%, inattention and hyperactivity 13%, anxiety disorders 7%, and substance use 11% (Phares, & Lum, 1997). Certain studies used self-report measures like the Youth Self Report (YSR) and the Beck Depression Inventory (BDI), where 15% of a sample scored in the 98^{th} percentile (clinical range) on the YSR, and another sample showed where 7% scored in severely depressed range on the BDI, and 17% scored in moderately depressed range (Cumsille, & Epstein, 1994; Pumariega, Glover, Holzer, & Nguyen, 1998). One of the studies noted that 68% of their sample had attended outpatient individual therapy while 29% had attended group treatment, and 26% had attended family treatment (Garland,

Aarons, Saltzman, & Kruse, 2000). Moreover, 21% of the sample attended less than 5 sessions, where 35% attended 6 – 20 sessions, and 44% attended more than 20 sessions. Also noted, 53% of a sample engaged in prior therapeutic treatment and 22% of that sample had been previous placed in residential treatment, a group home or an inpatient hospital setting (Garland, Aarons, Saltzman, & Kruse, 2000).

Substance use. Chung and Martin (2005) focused their study on classification of substance use disorders. They noted, "Demographic and substance use characteristics of this sample are generally similar to those of other multisite or national surveys of youth in addictions treatment" (p. 998; Dennis, Dawud-Noursi, Muck, & McDermeit, 2003; Hser, Grella, Hubbard, Hsieh, Fletcher, Brown, & Anglin, 2001). Data from their study and the other studies here categorized as "substance use" have been aggregated in an attempt to more robustly define the population. In the studies covered, samples varied in size from 193 participants to 826 participants with the average sample size being 509 (Chung, & Martin, 2005; Gordon, Kinlock, & Battjes, 2004; Jaycox, Morral, & Juvonen, 2003; Rounds-Bryant, Kristiansen, & Hubbard, 1999; Tims, Dennis, Hamilton, Buchan, Diamond, Funk & Brantley, 2002; Wilens, Biederman, Abrantes, & Spencer, 1997). Ages for participants ranged from 12 – 19 years old with average ages ranging from 15 – 16.9 years. Males made up 61% – 84% of the samples with an average across samples of 74.5%. Whites made up 52% – 80% of samples with the average being 63%. Blacks were 15% – 29% of the samples.

Family make up within the aggregated studies showed that 41% – 78% of participants were living with both parents. One study noted 14% had no parents in the household at admission to the study and 42% had one parent in household (Rounds-

Bryant, Kristiansen, & Hubbard, 1999). Across samples, 13.6% – 34% had prior treatment through hospitalization or outpatient therapy. Regarding diagnoses, 11% – 50% were noted to have ADHD, and 43% – 66% had Conduct Disorder (CD) with an average CD diagnosis across samples of 56%. Alcohol Abuse or Dependence was diagnosed in 46% – 50% of cases across samples. Marijuana Abuse or Dependence was diagnosed in 50% – 92% of cases across samples. Alcohol use or dependence coupled with another drug use or dependence was noted in 46% – 50% of cases across samples. Sample percentile use of other substances ranged across studies as follows: hallucinogens 35% – 52%; cocaine 34% – 35%; opioids 35% and amphetamines 16% (Chung, & Martin, 2005; Wilens, Biederman, Abrantes, & Spencer, 1997). Chung and Martin (2005) noted the average use of different illicit substances for their sample was 4.3.

Criminality within the aggregated studies showed that 39% – 62% of cases across samples had criminal justice status and 46% – 80% had been arrested at least once. According to one study, 23% of the sample had been referred for treatment by the juvenile of criminal justice system (Rounds-Bryant, Kristiansen, & Hubbard, 1999). Furthermore, Gordon, et al. (2004) found that 83% of the sample reported criminal activity, 53% were on probation, 35% reported "major criminal behavior" defined as "robbery, burglary, auto theft, arson, or drug distribution," 11% reported being a part of a violent crime "(robbery with a weapon, rape, or murder),"and the mean number of arrests was 2.3 (p.48). Similarly, another study noted that 50% of those who reported criminal activity had engaged in "predatory illegal activity" where within the last year they perpetrated either "aggravated assault, burglary, theft, robbery, forgery, or embezzlement" (Rounds-Bryant, Kristiansen, & Hubbard, 1999, p. 583).

Sexual activity across aggregated studies showed that 21% – 58% of cases across samples reported multiple sex partners and 88% – 89% reported being sexually active. One study noted that 21% of their sample was not sexually active (Rounds-Bryant, Kristiansen, & Hubbard, 1999). Rounds-Bryant, et al. (1999), also noted that 6% of their sample had been sexually abused but not physically abused, 16% had been physically abused but not sexual abused, and 8% had been subject to both physical and sexual abuse.

Foreign. The OP studies here categorized as "foreign" obtained their samples from Finland, the Netherlands, Sweden, South Africa, and Scotland (Hoare, Norton, Chisholm, & Parry-Jones, 1996; Kopp & Gillberg, 2003; Pelkonen, Marttunen, Pulkkinen, Laippala, Aro, & Lonnqvist, 2000; Vogel, & Holford, 1999; Zwaanswijk, Van Der Ende, Verhaak, Bensing, & Verhulst, 2003). Data from the foreign studies have been aggregated in an attempt to more robustly define the population. In the studies covered, samples varied in size from 112 participants to 5000 participants. Age ranges across samples varied from 1 year to 23 years with mean sample ages that ranged from 10.6 to 15.7 years. Males made up on average 50% of the participants. Family demographics showed that 26% – 48% of sample participants lived with their single mother, 25% – 50% were from a divorced family, and 28% – 47% came from intact families. One study noted that 3% of the sample participants lived with their single fathers (Kopp & Gillberg, 2003), and noted in another study, 16.9% of sample participants were in the foster care system (Pelkonen, et al., 2000). Psychiatric treatment showed that 4.6% – 15% were noted to have been prescribed psychotropic medication and 3% – 13% previously had inpatient psychiatric care. Pelkonen, et al. (2000) noted

that 27.6% of their participants had been recommended for psychiatric hospitalization and 45.5% had previous outpatient therapy. With referral systems, 5% – 10.5% of participants in the samples were referred from social service agencies and 33% – 53.5% were referred from health care professionals. Hoare, et al., (1996) noted that 6% of their participants were emergency referrals and 12% were urgent referrals. Physical abuse was noted in 2% – 9% of participants and sexual abuse was noted in 9% of participants across samples. Hoare, et al., (1996), and Kopp and Gillberg, (2003) noted that an additional 3% – 6% of their samples were suspected to have be subject to sexual abuse. With diagnoses and diagnostic categories, Hoare, et al., (1996) found that 37% of their sample had "conduct and mixed disorders" (p. 229). Other studies reported 10% – 27% of participants in samples suffered from an anxiety disorder, 10% – 22% had a mood disorder, 3% – 36% an adjustment disorder, 2% – 21% ADHD, and 3.5% – 22% a disruptive behavior disorder. Certain studies reported percentages for more varied categories such as 0.2% – 6% of samples had a substance use disorder (Hoare, et al., 1996; Kopp & Gillberg, 2003), 4% had Obsessive-Compulsive Disorder, and 6% had a psychotic disorder (Hoare, et al., 1996; Pelkonen, et al., 2000). And finally, Pelkonen, et al. (2000) noted that "up to ¾ of adolescent outpatients have had suicidal ideation and about 1/5 have made suicide attempts" (p. 190; Carlson, & Cantwell, 1982; Kovacs, Goldston, & Gatsonis, 1993; Myers, et al., 1991; Pelkonen, et al., 1997; Ryan, et al., 1987).

Client Characterization Studies in Residential Treatment Centers

Residential programs are the closest well-studied approach which parallels the intensity and full-time nature of TWPs. Because they will also serve as a control

comparison in the present study, it is appropriate to describe what is known about client populations in those settings.

According to the Center for Mental Health Services, approximately 20% of youth, ages 9–17, suffer from a diagnosable emotional or behavioral disorder (Friedman, Katz-Leavy, Manderscheid, & Sondheimer, 1996, 1998). Within that population, there are approximately 5 – 9% who can be considered functionally impaired to a degree where their ability to succeed and relate successfully with others in conventional community-based environments proves to be severely compromised (Sprague & Walker, 2000). Children who fit into that 5 – 9%, which has been estimated to be in upwards of 117,720, are presumably those placed in separate day treatment or residential treatment schools for youth who suffer from serious emotional disturbance (Spencer, Shelton, & Frank, 1997). Moreover, these children are more likely to have "typically experienced a history of failed placements, are more seriously disturbed, act out more aggressively,…have more complex abuse related symptoms" (Flament, Cohen, Choquet, Jeammet, & Ledoux, 2001, p. 1071), and have likely been placed in residential treatment by exhausting other types of mental health services (outpatient treatment, day treatment, treatment foster care, etc..) (Kamerman & Kahn, 1990; Singh, Landrum, Donatelli, Hampton, & Ellis, 1994; Small, Kennedy, & Bender, 1991; Wurtele, Wilson, & Prentice-Dunn, 1983).

Residential treatment centers (RTC) have long been a mental health treatment option for children and adolescents (Zimmerman, 1994). RTC facilities were created especially for child clients who were placed out of the home due to emotional and/or behavioral difficulties (e.g., Bettelheim, 1950; Redl, 1966). Although treatment approaches may differ from facility to facility, in general, RTCs are designed as

residential therapeutic environments that utilize 24-hour group living with individualized integrated treatment and educational services (Child Welfare League of America, 1982). Ideally, these settings specifically address each client's mental health needs through a multi-faceted treatment approach.

Studies which focus on the amount of young people placed in RTCs show there has been a significant increase in the number of admitted children and adolescents since the 1980's (Public Health Service, 1992; Spencer, Shelton, & Frank, 1997). With the substantial increase in young people admitted to RTCs Connor et al. (2004) indicated that, "Analyses suggest that the growth in residential treatment has been accompanied by decreased access to inpatient treatment and that [RTCs] increasingly serve as an alternative to inpatient psychiatric care for many seriously emotionally disturbed children and adolescents" (p. 498). As suggested by Connor et al. (2004) there is a facet of the adolescent population treated at RTCs that, in the past, were housed on inpatient psychiatric units. Moreover, RTCs appear to be a viable alternative in the placement of troubled young people except those whose difficulties are psychiatrically acute or severe. Many researchers have endeavored to provide a description of these young people placed in residential treatment (Abramovitz & Bloom, 2003).

The vast majority of characterization studies amass data through case file examinations which would include intake and demographic/historical information and progress/treatment notes (Baker & Dale, 2002; Kashubeck, Pottebaum, & Read, 1994; Moore & O'Connor, 1991; Rivard, McCorkle, Duncan, Pasquale, Bloom, & Abramovitz, 2004; Weiner, Abraham, & Lyons, 2001; Zimmerman, 1994). Other researchers chose more standardized means to characterize domains which included structured diagnostic or

rating scale interviews and self report questionnaires (Conner, Doerfler, Toscano Jr., Volungis, & Steingard, 2004; Flament, Cohen, Choquet, Jeammet, & Ledoux, 2001; Gordon, Tulak, & Troncale, 2004; Gorske, Srebalus, & Walls, 2003; Lyons & Schaefer, 2000; Morral, McCaffrey, & Ridgeway, 2004; Orlando, Chan, & Morral, 2003; Wells & Whittington, 1993; Wurtele, Wilson, & Prentice-Dunn, 1983). For the most part, characterization studies have focused on domains such as outcome, troubling/problematic events, family functioning, diagnostic criteria level and severity, behavior, academic functioning, service needs, and other predictor and process variables (Burns & Freidman, 1990; Connor, Miller, Cunningham, & Melloni, 2002; Costello, Angold, Burns, Erkanli, Stangl, & Tweed, 1996; Curry, 1991; Greenbaum, Dedrick, Friedman, Kutash, Brown, Lardieri, & Pugh, 1998; LeCroy & Ashford, 1992; Reddy, 2001; Wells & Whittington, 1993).

In an effort to more specifically typify program participants McCord (1995) conducted a study where he looked to support the "Type versus Treatment Interaction research" (p. 59). In his study he chose to focus on a residential treatment facility that utilized adventure therapy and wilderness living space. His classification tool was the MMPI. Cluster analysis of the MMPI profiles of 46 program participants (White males, 13 – 17 years old) revealed three meaningfully different scale patterns. McCord (1995) identified them in three groups with certain elevations on particular scales and suggested the most appropriate type of treatment for each to maximize outcome. Group one type was identified as the nonconformists who presented with an "elevated scale 4 and a secondary mild elevation on scale 5" (p. 55). This type was characterized as "likely to be chronically angry and resentful. Tends to be passive-aggressive… immature and

narcissistic. Defies convention through dress and behavior" (p. 55). Group two was identified as party animals who showed "mild to moderate elevations on scales 4 and 9" (p. 55). Group two's were characterized as "often in trouble with parents and other authorities because of stereotypical delinquent behaviors: drug and alcohol use, sneaking out at night, using car under-age and without permission, early sexual experimentation. Less angry, more hedonistic. Energetic and highly extraverted" (p. 55). The third cluster was identified as emotionally disturbed and showed "significant elevations on scales F, 4, 8, 6, 2, and 9" (p. 55). These adolescents were characterized as "experiencing by far the most subjective distress, including feelings of depression and despair, confusion, and dismay. Their behavior tends to be erratic, unpredictable, and highly impulsive… substance abuse is common. Poor achievement and chronically poor adjustment are likely" (p. 55). McCord's purpose was stated rather clearly: "We need to have a better understanding of the different types of adolescents entering our treatment programs so that we can begin to determine which program elements are most effective with which residents" (p. 52). This statement readily identifies the elemental goal of the current study.

Goals of the Present Study

Even though placement in a TWP has become a more regularly utilized component in the treatment continuum for children, there is a dearth of research in describing specific characteristics of the children involved. Delineating specific child characteristics is important from both a clinical and research perspective. Clinically, identification of the population allows for a more informed understanding of what and who is being treated as well as a depth and breadth of case conceptualization and

specified treatment approach. Furthermore, in order to most effectively meet the child's needs in any treatment facility, the behavioral and clinical condition of the child should be matched to the capabilities and structure provided by the program.

From a research perspective, a defined population is a basic part of the social science foundation. Little can be established about how a person has been impacted by an intervention, or what mechanisms account for the largest amount of variance in a person's change without knowing some rather crucial aspects about what kind of person has been impacted, or what type of person experienced said change. On a more concrete level, linking adolescents to mental health services has, in more recent research, evolved into "selecting the appropriate service for each child's particular problem from a range of options" (Tarter, Kirisci, & Mezzich, 1997, p.151). Such treatment-link options cannot be available without characterization, where after-characterization outcome studies linked to characterization aspects may then be conducted. Child psychologists have long recognized the need to choose therapeutic modalities specific to the age of the client and certain treatments have, through methodologically rigorous quantitative analysis, shown more effective at ameliorating symptoms of specific disorders (Emmelkamp, 2004; Hollon & Beck, 2004; Kazdin, 2004). Defining the population who seeks such an intervention as TWP begins to allow for "Type versus Treatment Interaction research" as a way to "maximize outcomes from the intervention" (McCord, 1995, p. 59; Russell & Phillips-Miller, 2002, p. 435). Whereas TWP characterization does not imply that TWPs are actually efficacious in the treatment of those characterized. Robust understanding of those who are referred for TWP placement provides information for targeted future studies. This current study endeavored to fill gaps in TWP research by investigating and

characterizing adolescents admitted to wilderness treatment. The primary goal is to identify the population of adolescents who are provided treatment at TWPs across multiple domains through archival data.

Data Quality. Domains of interest in an archival study such as this are generated from the available records. As such, data suffers from or is aided by the level of meticulousness in the documentation. Those who document oftentimes do so according to what is required by law. Similarly, the records are most times generated from self-report. In the cases for the present study parents/caregivers or the adolescent provided the self-report to the admitting program and may have filtered information tied to social desirability or debasement. As such, some data may have been suspect and was taken with natural caution. Moreover, data possibly suffered from discrepancies across sites if, for example, one site used standardized or systematic procedures in diagnosis while other sites relied simply on regular psychosocial interview and clinical judgment (Jensen & Weisz, 2002).

Certain data points of interest not readily available from the records or not extracted for this study include: Socioeconomic status of caregiver family, ethnicity, length of stay in treatment facility (previous/current), level of treatment resistance/compliance in the past, previous full psychological evaluation, sexual abuse perpetrator, and discharge diagnosis if different from admission.

METHOD

The primary goal stated above was to identify salient features of those adolescents admitted to a particular kind of treatment setting (TWP). Similar to how characterization studies have been carried out with other treatment settings (e.g., RTC facilities as noted above), the primary feature of this project was to collect basic descriptive data on those admitted to TWPs. Basic descriptive data was combined to represent multiple characterizing indexes that are in common usage for description of adolescent clinical populations. Similarly, the characterizing indexes more readily allow varied quantitative analysis. To further broaden and substantiate the characterizing process, data gathered from TWPs was compared to data gathered from previously well-defined treatment populations: RTCs and an adolescent outpatient therapy (OP) setting. Identifying the similarities and differences between adolescents admitted to TWP and more traditional settings (RTC and OP) on these attributes can more clearly define the type of adolescent who utilizes TWP as a treatment option. Data for this current study was gleaned from the intake information and initial therapy sessions from multiple sites.

Data Collection Sites

Because of the pilot nature of this project, there is no effort to assure representativeness of the sites selected. Indeed, both wilderness, residential programs, and the outpatient setting are so diverse as to not allow representativeness without conducting a large, national study. The sites available are limited in scope, but as described below, appear to offer programs and settings that were mainstream in nature. Two residential, two wilderness programs, and one outpatient clinic agreed to participate.

Residential settings. New Haven Residential Treatment Center (NH) is a single gender female facility that serves approximately 50 students at any one time. Adolescents admitted to NH range in age from 13 – 18 with an average age of 16 years old. Adolescents who present as pregnant, medically unstable, low IQ (below 80), severe Autism, psychosis, antisocial or conduct disorder, non-English speaking, physically violent history, or have parents who are unwilling to participate are excluded from this program. The average length of stay is approximately 8 – 9 months. Each student is administered a full psychological evaluation upon admission which includes diagnosis. Educationally, through the individual educational plan, the goal is for the student to reach grade level and transition smoothly into another mainstream school setting or graduate and attend college. Therapeutically, individual treatment plans include 90 minute sessions of individual, family, and equine assisted therapy each week. Daily group therapy sessions are held and usually run 90 minutes. Recreational therapy is held four times a week and lasts approximately 90 minutes. Family involvement is crucial, and approximately every 8 weeks families are asked to participate in a three-day intense family-centered weekend with instructional and support groups, experiential therapy, family therapy, and other activities. Family reunification is the goal following treatment at NH. The treatment philosophy is based on responsibility, accountability, empowerment, family connectedness, value system alignment, a sense of connectedness to something divine, and the individual developing a more internal locus of control. Whereas these principles are developed in therapy and daily living at NH, they are further taught through the value-based level system of privileges which is intended to foster positive self-control.

Island View Residential Treatment Center (IV) is a coed facility that works with approximately 100 students at any one time. Males and females are, for the most part, evenly matched in numbers at IV. Although IV is coed, dorms and the vast majority of group therapy sessions are single gender. Adolescents admitted to IV range in age from 12 – 18 with an average age of 16 years old. Adolescents who present as being pregnant, medically unstable, low IQ (below 80), severe Autism, psychosis, antisocial or conduct disorder, and non-English speaking are excluded from this program. The average length of stay at IV is approximately 9 – 11 months. Upon admission to IV, the adolescent undergoes a psychosocial, educational, nutritional, recreational, and chemical dependency assessment. An individual treatment plan is then developed to best address the young person's issues across these domains. Diagnosis is provided by the clinician who is the therapist for the individual student (psychologist, social worker, or marriage and family therapist). The bulk of the therapeutic regimen consists of weekly individual sessions and family therapy sessions, as well as specified topic group therapy and specialty topic (e.g. art, adoption, men's/women's issues, mountain ascent) group therapy 5 – 6 times per week. One of the main catalysts to treatment at IV derives from the positive peer environment, which posits that those students who have shown positive and functional changes become identified role models. This positive peer environment is formed to provide a family-like atmosphere and is monitored daily by staff and team directors to foster positive values of self-worth, dignity, responsibility, and helping and caring for others. These principles are developed through leadership opportunities, job assignments, problem-solving meetings and other psychosocial platforms for change.

Students also take part in recreational therapy with access to team sports and daily cardiovascular exercise.

Wilderness settings. Second Nature Therapeutic Program (2N) is a wilderness based treatment program that serves approximately 80 to 100 students depending on the season. Males and females are admitted, although males make up approximately 70% of the population. Adolescents admitted to 2N range in age from 13 – 17 with an average age of 16 years old. Adolescents who present as being pregnant, medically unstable, low IQ, severe Autism, and psychosis are excluded from this program. 2N is a year-round open enrollment program where the average length of stay is approximately 6 ½ – 8 weeks. Diagnosis is provided by the attending individual therapist (psychologist, social worker, or marriage and family therapist [master's or Ph.D. level]). Treatment is administered through single gender groups of approximately 5 to 10 students where staff provides a controlled, supervised and interactional environment 24 hours per day. Students are required to maintain a peripatetic lifestyle, hiking with provisions in a backpack and setting up camps at different places in the back country. Both group (2 sessions led by therapist per week) and individual therapy (1 session per week) is provided. Additionally, staff members lead discussions groups approximately 5 times a week and have individual discussion sessions with each student 2 or more times per week. 2N distinguishes itself by providing a threefold service: clinical treatment, natural observation and assessment, and preparation for long-term solutions. Therapeutic changes at 2N are said to be generated through insight, interpersonal skills (communication and relationship skills), responsibility, and empowerment. 2N provides

a limited educational component with English (writing emphasis), and physical education credits available.

Red Cliff Ascent (RCA) is a wilderness based treatment program that serves 60 to 80 students depending on the season. Males and females are admitted with males making up approximately 65% – 70% of the population. Adolescents admitted to RCA range in age from 13 – 18. Adolescents who present as being pregnant, medically unstable, low IQ, severe Autism, and psychosis are excluded from this program. Diagnosis is provided by the attending individual therapist (psychologist, social worker, or marriage and family therapist). RCA is a year-round open enrollment program with treatment duration flexibility of 30 days to 60+ days. Treatment is administered through a small group community atmosphere with a 1:3 staff to student ratio where as students move through certain value-based phase curriculum, they move from specific group settings. Staff provides a controlled, supervised and interactional environment 24 hours per day, and students are required to maintain a peripatetic lifestyle, hiking with provisions in a backpack to different camps previously set up 3 to 7 miles apart in the back country. Weekly group and individual therapy is provided by licensed therapists. Staff members also lead discussion groups throughout the week. Therapeutic changes at RCA are said to be generated through clinician generated individualized treatment, the value based curriculum, and the wilderness trek. RCA provides an educational component with Literature/social science credit and physical education credits available.

Adolescent outpatient setting. Preferred Family Clinic (PFC) is a private mental health evaluation and treatment center that provides individual and group treatment, as well as psychological testing, seminars, and psychological-aid products. Diagnosis is

provided by the attending individual therapist (psychologist, social worker, or marriage and family therapist). Noted specialty areas include, among other things, abuse victims, addictions, ADHD, adolescent therapy, adoption issues, behavior problems, child therapy, conduct disorder, and depression. The greater service area includes approximately 400,000 people with a census 2000 median age of 23.3, an average household size of 3.59, and a 2005 individual per capita income of $27,321 (Spendlove, 2006a). As of July 1, 2005 there are noted to be 238 people per square mile in the county which has a mix of rural and suburban settlements (Spendlove, 2006b).

Subjects

As an archival study, data was collected from the client records at the noted five facilities. A total number of 150 client records were accessed from wilderness therapy sites (2N and RCA): 75 client records were accessed from each site. For 2N, 43 of the subjects were male and 32 were female and ages ranged from 13 to 17 years old with the mean age being 15.81. For RCA, 46 of the subjects were male and 29 were female and ages ranged from 13 to 17 years old with the mean being 16. A total number of 152 client records were accessed from residential treatment sites (IV and NH): 75 client records were accessed from NH and 77 were accessed from IV. NH subjects were all female and ranged in age from 13 to 17 years old with the mean age being 15.39. IV subjects were all male with an age range of 13 to 17 years and a mean age of 15.61. The outpatient therapy site (OP) allowed access to 154 client records with 76 male subjects and 78 female subjects. Ages for the OP site ranged from 11 to 18 years old and the mean age was 14.48. The total number of client records accessed for this study was 456.

Subjects either began or were a part of treatment between December 2004 and December 2005.

Data Collection Procedures

Each facility provided a list of the archived treatment records that fell within the time period for treatment specified. The number of possible records (the list provided) was entered into a number randomizer program (Urbaniak & Plous, 1998) to provide equal representation in random assignment of the records accessed. Records were then accessed according to the randomized program output.

Each facility had previously assessed admitted students according to the site specific medical/clinical assessment procedure. Data was obtained from the records of the medical/clinical assessment as well as the site specific application filled out by caregivers prior to admission. Initial treatment notes, such as psycho-social history, filled out by the intake officer or individual therapist were also used in data collection. The forms for each of the data collection sites were reviewed by the primary researcher and potential demographic information common to the records maintained by each site were identified as data points. Data collection procedures were reviewed and approved by the Brigham Young University Institutional Review Board. Each program maintained archived records of admits from the previous three years. Subjects' records for data extraction were to have participated in treatment in one of the five sites, and completed or left treatment previous to December 31, 2005. Archival data gathering in this order typically does not require participant's consent.

One graduate level psychology student extracted the data from the site-based students' application, clinical records, and medical records using the formulated

demographic-based data sheet (Appendix A). Data was used to form a demographic database, which included 52 variables. Variables for the current study are for the most part those used in previous adolescent characterization studies (Baker and Dale, 2002; Burns & Freidman, 1990; Connor, Miller, Cunningham, & Melloni, 2002; Costello, Angold, Burns, Erkanli, Stangl, & Tweed, 1996; Curry, 1991; Greenbaum, Dedrick, Friedman, Kutash, Brown, Lardieri, & Pugh, 1998; Kashubeck, Pottebaum, & Read, 1994; LeCroy & Ashford, 1992; Reddy, 2001; Rivard et al., 2004; Weiner, Abraham, & Lyons, 2001; Wells & Whittington, 1993; Zimmerman, 1994). Key variables are found in Table 1.

Higher level ratings. Based on these fairly direct ratings, and on other information available in the client record, a few additional, higher level ratings were made. Aggregated information from a variety of domains is commonly used to characterize adolescent functioning. Aggregated information from file records was used to identify specific data points within this characterization study. These included: internalizing versus externalizing, and three family environment dimensions.

Subjects were rated as internalizing, externalizing or mixed. Following Wu et al. (1999), this rating was based on diagnosis (e.g. internalizing: Mood, Anxiety, Somatoform Disorders; externalizing: Conduct, Oppositional Defiant, Disruptive Behavior Disorders; mixed: substance abuse, substance dependence), presenting problems identified by caregivers (e.g. internalizing: attempted suicide; externalizing: constantly fights with parents and destroys home property; mixed: isolates in room and engages in a high level of thievery), and any further identifying information that suggests a standard way of coping (e.g. internalizing: few friends, socially awkward, video game

Table 1 List of study variables.

Variable	Scaling[1]
Client Characteristic	
Age	In years
Gender	Male, female
Adoption status	Yes, no
School failure	None, once, more than once
Suspension from school	None, once, more than once
Expulsion from school	None, once, more than once
Diagnosis Type and Treatment History	
Current diagnostic severity	Minimal, moderate, severe
Outpatient treatment	None, <3 sessions, intermittent beyond 3 sessions, intense beyond 3 sessions
Inpatient treatment	None, once, more than once
Medication(s) for psychiatric Symptoms	Yes, no
Mental Health History	
Suicide attempt history	Yes, no
Suicidal ideation	None, previous, some current, significant current
Self mutilation	None, superficial/minimal, moderate/confined, severe/considerable
Run away	None, once, more than once
Sexual activity	None, minimal (heavy petting), moderate (oral, vaginal, or anal intermittently or with less than five separate partners), extensive (frequent, long-term, or with more than five partners)
Reported physical abuse	Yes, no
Reported sexual abuse	Yes, no
Substance Abuse	Yes, no

Table 1 (continued)

Variable	Scaling[1]
Diagnosis present	
Anxiety disorder	Yes, no
Mood disorder	Yes, no
Bipolar disorder	Yes, no
Conduct disorder	Yes, no
ADHD	Yes, no
Oppositional defiant disorder	Yes, no
Learning disorder	Yes, no
Eating disorder	Yes, no
Substance use	
Cannabis	Yes, no
Alcohol	Yes, no
Amphetamine	Yes, no
Cocaine	Yes, no
MDMA	Yes, no
Hallucinogens or depressants	Yes, no
Other stimulants	Yes, no
Inhallants	Yes, no
Prescription medication(s)	Yes, no
Mean number of substances abused	Mean number of different substances
Psychotropic Medication(s)	
Antidepressant only	Yes, no
Stimulant only	Yes, no
Antidepressant and antipsychotic	Yes, no
Antidepressant and mood stabilizer	Yes, no
Antipsychotic and mood stabilizer	Yes, no
Antidepressant, stimulant, & antipsychotic	Yes, no
Antidepressant, antipsychotic, & mood stabilizer	Yes, no

Table 1 (continued)

Aggression/Offense History	
Aggressive/Threatening Acts	None, minimal (1-2 fights; infrequent explosive arguments with threats), moderate (3-5 fights; periodic explosive arguments with threats), severe (5< fights; frequent explosive arguments with threats)
Arrest(s)	None, one, more than one
Juvenile court dates	None, one, more than one
Court ordered treatment	Yes, no
Family Environment	
Parental marriage status	Married, divorced, remarried, never married

[1] The quality of data in clients' records did not allow use of a more complete scale than that given.

addicted; externalizing: readily blames others, aggressive/destructive anger outbursts, vindictiveness; mixed: regularly brooding, deceitful and starts fires, recurrent suicidal ideation). See appendix B for more specification on rater's instructions.

Family environment was characterized based on three variables of family strengths originally cited by Krysan, Moore, and Zill (1990). These variables included family communication style, family adaptability, and amount of time with family. As ratings on the family environment based on information in client files, these ratings were subjective and cumulative in nature. Two of the variables, family communication style and family adaptability, were rated as "Good", "Fair", or "Poor". A family communication style rating of "Good" suggests a normal or healthy level of communication; "Fair" suggests some impairment in communication with disordered and disconnected periods; "Poor" suggests an agitated and closed communication environment with an inability to form family connections (Wells & Whittington, 1993;

Zimmerman, 1994). A family adaptability rating of "Good" suggests there is a normal and healthy flexibility in times of stress; "Fair" suggests some impairment such as being constrained and inaccessible in times of stress; "Poor" suggests serious impairment with rigidity and chaos in times of stress (Wells & Whittington, 1993; Zimmerman, 1994). The third family environment variable, amount of time with family, was rated as none, little, moderate, or extensive (Wells & Whittington, 1993; Zimmerman, 1994). Information to determine these ratings was identified through diagnosis, presenting problems, strengths and weaknesses identified by caregivers, and any further file information that characterized the family environment (e.g. psycho-social history, pattern of abuse).

Confidentiality. All identifying information remained on-site and contained at the respective programs. Participant names were linked to a study code. Anonymous data was coded onto a data sheet (see attachment) and entered into a data program under the study code for that particular participant. Study codes as linked to the participant's descriptive identifiers were kept in a locked file at each of the respective programs. The key that defined the particular data entry codes was kept on a hard copy at the respective sites in a locked file and also on soft copy on the primary researcher's laptop under a password protected encrypted file. Only the research team (Mayer Jeppson, Bruce Carpenter) had access to the raw data.

Data Analysis

Variable classification. Statistical analysis was, for the most part, generated from a simple no = 0, yes = 1 format. Due to certain more complex variables, scaling from 0 –

3 or from 1 – 3 was used. Indices, data points and scaling classification criteria is included in table 2.

Rater reliability. Interrater reliability was established on ten randomly selected participants from each data collection site. Records of program participants are not allowed to leave the specific sites. Therefore, a graduate student in psychology was trained in the methods of data classification and collection. Ten subject files from the site-list of study files were randomly selected through the randomizer program (Urbaniak & Plous, 1998) to assess interrater reliability. Pearson's *r* was used to calculate the level of agreement for each variable across all sites.

Results from interrater analysis showed respectable correlation coefficients which ranged from $r = .75$ to $r = 1.0$. Certain data points were more subjective where overall chart information was utilized to make a determination (aggressive/threatening acts; sexual activity; family communication; family adaptability; and time with family) and the correlation coefficients for these data points ranged from $r = .75$ to $r = .87$ with an average across said five data points of $r = .80$. Correlation coefficients across the other variables ranged from $r = .92$ to $r = 1.0$ with an average across the other twenty-two variables of $r = .97$.

Statistics utilized. A primary purpose of the study was to characterize the wilderness program client population. Thus, most analyses were descriptive, including percentage tabulations of categorical responses.

To better understand how TWP clients compared to RTC clients and those who access outpatient therapy (OP), data was compared between the sites (Second Nature and Red Cliff Ascent versus Island View/New Haven; Second Nature and Red Cliff Ascent

Table 2. Indices, data points, and criteria for classification.

Indices	Data Point	Classification Criteria
Mental Health History	Suicide attempt	No=0; yes=1
	Suicidal ideation	None=0; previous=1; some current=2; significant current=3
	Self-mutilation	None=0; superficial/minimal=1; moderate/confined=2; severe/considerable=3
	Run away attempt(s)	None=0; one=1; more than one=2
	Sexual activity	None=0; minimal (heavy petting without oral sexual activity)= 1; moderate (oral, vaginal, anal, sexual activity with less than five different partners)=2; extensive (oral, vaginal, anal, sexual activity with more than five different partners)=3
	Reported physical abuse	No=0; yes=1
	Reported sexual abuse	No=0; yes=1
	Substance abuse	No=0; yes=1
Family Dynamics	Parental marital status	Married=1; at least one divorce=2; never married=3
	Family communication style	Good, normal healthy communication=1; fair, impairment with disordered and disconnected periods=2; poor, inability to form connections, agitated and closed=3
	Family adaptability	Good, normal flexibility in times of stress=1; fair, impairment, constrained and inaccessible in times of stress=2; poor, serious impairment, rigid and chaotic in times of stress=3

Table 2 (continued)

	Time with family	Extensive=0; moderate=1; little=2; none=3
Diagnosis Type and Treatment History	Nature of current primary disorder	Internalizing=1; externalizing=2; mixed=3
	Current diagnostic severity	Minimal=1; moderate=2; severe=3
	Outpatient treatment	None=0; <3 sessions=1; intermittent beyond 3 sessions=2; intense beyond 3 sessions=3
	Inpatient treatment	None=0; once=1; more than once=2
	Medication for psychiatric symptoms	No=0; yes=1
Client Characteristics	Age	In years
	Gender	Male=1; female=2
	Adopted	No=0; yes=1
	School failure	None=0; once=1; more than once=2
	Suspension(s)	None=0; once=1; more than once=2
	Expulsion(s)	None=0; once=1; more than once=2
Diagnosis Present in Clientele	Anxiety disorder	No=0; yes=1
	Mood disorder	No=0; yes=1
	Bipolar disorder	No=0; yes=1
	Conduct disorder	No=0; yes=1
	ADHD	No=0; yes=1
	Oppositional defiant disorder	No=0; yes=1
	Learning disorder	No=0; yes=1

Table 2 (continued)

	Eating disorder	No=0; yes=1
	Cannabis	No=0; yes=1
	Alcohol	No=0; yes=1
	Amphetamine	No=0; yes=1
	Cocaine	No=0; yes=1
	MDMA	No=0; yes=1
	Hallucinogens or depressants	No=0; yes=1
	Other stimulants	No=0; yes=1
	Inhallants	No=0; yes=1
	Prescription medication(s)	No=0; yes=1
Medication(s)	Antidepressant only	No=0; yes=1
	Stimulant only	No=0; yes=1
	Antidepressant and antipsychotic	No=0; yes=1
	Antidepressant and mood stabilizer	No=0; yes=1
	Antipsychotic and mood stabilizer	No=0; yes=1
	Antidepressant, stimulant, and antipsychotic	No=0; yes=1
	Antidepressant, antipsychotic, and mood stabilizer	No=0; yes=1

Table 2 (continued)

Aggression/Offense History	Aggressive/ threatening acts	None=0; minimal (1-2 fights; infrequent explosive arguments with threats)=1; moderate (3-5 fights; periodic explosive arguments with threats)=2; severe (5< fights; frequent explosive arguments with threats)=3
	Arrests	None=0; once=1; more than once=2
	Court dates	None=0; once=1; more than once=2
	Court ordered to treatment	No=0; yes=1

versus Preferred Family Clinic). Given that most variables are categorical, analyses were primarily univariate (a couple of independent groups *t*-tests but mostly χ^2). Comparisons were made on the multiple data points between TWP and RTC subjects and between TWP and OP subjects. Certain clinically intuitive data points were chosen for analysis to further characterize male TWP clients from female TWP clients (aggressive/threatening acts; self-mutilation; primary disorder; substance use; inpatient treatment; and outpatient treatment). Univariate analyses were utilized (χ^2) to identify within treatment setting gender differences on these data points.

On variables that met statistical significance, Cramer's *V* was utilized to establish clinical significance.

RESULTS

The characteristics describing clients admitted to Therapeutic Wilderness Programs (TWP) are presented below in a series of tables. Each table also compares the clients from wilderness programs to those in Residential Treatment (RTC) and to those in an Outpatient Program (OP). Because most variables are categorical, the comparisons were performed using χ^2, or, when there are only two categories, the Fisher's Exact test. Because it was expected that the groups will differ on a large percentage of the comparisons, chance significance is not expected to be a problem; therefore, no correction for multiple comparisons was made.

Demographics. Results for general demographic and background variables are presented in Table 3. As can be seen, participants in TWP were slightly older. By design, subjects selected from RTC and OP were balanced for gender; in contrast and in keeping with census data, more males than females are found in TWP. As compared to adolescents in OP, TWP clients were much more likely to be adopted ($\chi^2 = 19.99$, $p < .01$) and to have been suspended ($\chi^2 = 64.45$, $p < .01$) or expelled ($\chi^2 = 13.14$, $p < .01$) from school.

Diagnosis and treatment history. Table 4 details the general type of client diagnosis per setting as well as aspects of mental health treatment history. In comparison to RTC (10%) and OP (1%) clients, TWP clients (53%) tended to present with an externalizing rather than internalizing or mixed disorders (RTC $\chi^2 = 65.42$, $p < .01$; OP χ^2

Table 3
Client Characteristics by Setting

Client Characteristic	Setting			χ^2	
	TWP	RTC	OP	TWP v RTC	TWP v OP
N	150	152	154		
Age[a]	M = 15.91 SD = 1.10	M = 15.51 SD = 1.09	M = 14.48 SD = 1.80	-3.21*	-8.34**
Gender[b]				3.47*	3.46
Male	89 (59%)	77 (49%)	75 (49%)		
Female	61 (41%)	81 (51%)	79 (51%)		
Adopted[b]				.06	19.99**
Yes	35 (23%)	35 (22%)	8 (5%)		
No	115 (77%)	123 (78%)	143 (95%)		
School Failure				.24	4.67
None	111 (74%)	119 (76%)	117 (84%)		
Once	30 (20%)	28 (18%)	18 (13%)		
More than Once	9 (6%)	10 (6%)	4 (3%)		
Suspension				18.43**	64.45**
None	74 (50%)	94 (67%)	125 (93%)		
Once	51 (34%)	18 (13%)	7 (5%)		
More than Once	24 (16%)	29 (20%)	2 (2%)		
Expulsion				9.81**	13.14**
None	126 (85%)	108 (72%)	130 (97%)		
Once	21 (14%)	29 (20%)	3 (2%)		
More than Once	2 (1%)	12 (8%)	1 (1%)		

Note: TWP = Therapeutic Wilderness Program; RTC = Residential Treatment Program; OP = Outpatient Program.

* $p < .05$, ** $p < .01$

[a] The statistical test for Age is an independent groups *t*-test.

[b] *p* values are for Fisher's Exact Test for 2 x 2 tables.

Table 4
Client Diagnosis Type and Treatment History by Setting

Diagnosis Type and Treatment History	Setting			χ^2	
	TWP	RTC	OP	TWP v RTC	TWP v OP
Nature of Current Primary Disorder				65.42**	134.85**
Internalizing	16 (11%)	40 (25%)	103 (67%)		
Externalizing	77 (53%)	16 (10%)	2 (1%)		
Mixed	53 (36%)	102 (65%)	49 (32%)		
Current Diagnostic Severity				17.37**	32.55**
Minimal	21 (14%)	4 (3%)	58 (38%)		
Moderate	90 (62%)	125 (79%)	87 (57%)		
Severe	35 (24%)	29 (18%)	9 (5%)		
Outpatient Treatment				31.39**	44.43**
None	21 (14%)	13 (8%)	1 (1%)		
<3 Sessions	4 (3%)	3 (2%)	25 (16%)		
Intermittent Beyond Three Sessions	33 (22%)	5 (3%)	13 (9%)		
Intense Beyond Three Sessions	91 (61%)	136 (87%)	113 (74%)		
Inpatient Treatment				162.90**	43.22**
None	83 (55%)	2 (1%)	133 (89%)		
Once	44 (29%)	22 (14%)	9 (6%)		
More than Once	23 (15%)	134 (85%)	7 (5%)		
Medications for Psychiatric Symptoms[b]				28.37**	9.77**
No	56 (37%)	18 (11%)	83 (55%)		
Yes	94 (63%)	140 (89%)	67 (45%)		

* $p < .05$, ** $p < .01$

[b] p values are for Fisher's Exact Test for 2 x 2 tables.

= 134.85, $p < .01$), and more TWP (24%) adolescents tended to be identified as severe diagnostically when compared to RTC (18%) and OP (5%) adolescents. TWP adolescents were more likely not to utilize outpatient therapy or intermittently attend outpatient therapy in comparison to both OP ($\chi^2 = 44.43$, $p < .01$) and RTC adolescents ($\chi^2 = 31.39$, $p < .01$). With both inpatient treatment usage and prescribed medication for psychiatric symptoms data, clients in TWP emerge as between the higher inpatient usage and more regularly medicated RTC clients ($\chi^2 = 162.90$; 28.37, both $p < .01$) and the lower inpatient usage and less regularly medicated OP clients ($\chi^2 = 43.22$; 9.77, both $p < .01$).

Mental health history. Data on other aspects of participants' mental health history is presented in Table 5. These data show a fairly consistent pattern wherein TWP clients again fall between the more severe RTC clients and the less severe OP clients. Adolescents in TWP presented with a history of more suicide attempts than OP clients ($\chi^2 = 6.41$, $p < .05$), but fewer than RTC clients ($\chi^2 = 16.01$, $p < .01$). History of suicidal ideation is more complex, with fewer TWP clients showing past ideation than did RTC clients ($\chi^2 = 28.11$, $p < .01$) and showing current ideation than did OP clients ($\chi^2 = 15.54$, $p < .01$). TWP clients were less likely to self-mutilate than RTC clients ($\chi^2 = 31.24$, $p < .01$), but more likely to have run away than OP clients ($\chi^2 = 35.96$, $p < .01$). Similarly the TWP adolescents level of sexual activity fell between that of the RTC clients at the high end ($\chi^2 = 17.47$, $p < .01$) and the OP clients at the low end ($\chi^2 = 30.46$, $p < .01$). The TWP participants were somewhat more likely to have been physically abused than

Table 5
Client Mental Health History by Setting

Mental Health History	Setting			χ^2	
	TWP	RTC	OP	TWP v RTC	TWP v OP
Suicide Attempts[b]				16.01**	6.41*
Yes	27 (18%)	61 (39%)	12 (8%)		
No	123 (82%)	97 (61%)	136 (92%)		
Suicidal Ideation				28.11**	15.54**
None	92 (64%)	51 (32%)	101 (69%)		
Only Previously	39 (26%)	80 (51%)	14 (9%)		
Some Current	17 (11%)	21 (13%)	28 (19%)		
Significant Current	2 (1%)	6 (4%)	4 (3%)		
Self Mutilation				31.24**	6.36
None	109 (73%)	66 (42%)	122 (84%)		
Minimal	13 (9%)	23 (15%)	11 (7%)		
Moderate	18 (12%)	37 (23%)	8 (6%)		
Severe	10 (6%)	32 (20%)	5 (3%)		
Run Away				1.87	35.96**
None	85 (57%)	99 (63%)	128 (87%)		
Once	28 (19%)	21 (13%)	4 (3%)		
More than Once	37 (25%)	38 (24%)	15 (10%)		
Sexual Activity				17.47**	30.46**
None	77 (51%)	46 (30%)	115 (82%)		
Minimal	29 (20%)	43 (28%)	8 (6%)		
Moderate	28 (19%)	32 (21%)	11 (8%)		
Extensive	15 (10%)	33 (21%)	6 (4%)		
Physical Abuse[b]				3.49	5.62*
No	133 (89%)	128 (81%)	143 (96%)		
Yes	17 (11%)	30 (19%)	6 (4%)		
Sexual Abuse[b]				12.31**	.67
No	135 (90%)	118 (75%)	139 (93%)		
Yes	15 (10%)	40 (25%)	11 (7%)		
Substance Abuse[b]				.02	131.67**
No	20 (13%)	22 (14%)	114 (80%)		
Yes	130 (87%)	136 (86%)	28 (20%)		

* $p < .05$, ** $p < .01$
[b] p values are for Fisher's Exact Test for 2 x 2 tables.

were OP clients ($\chi^2 = 5.62$, $p < .05$), and less likely to have been sexually abused than RTC clients ($\chi^2 = 12.31$, $p < .01$).

Diagnoses. Data focused on specific diagnosed disorders across settings is presented in Table 6. This data focuses on whether the diagnosis is present rather than primary or a sole diagnosis. Similarly noted above with the externalizing/internalizing spectrum, TWP clients were less likely than both RTC and OP clients to have a diagnosis of an anxiety or mood disorder ($\chi^2 = 12.42$, $p < .01$; $\chi^2 = 58.27$, $p < .01$; $\chi^2 = 15.01$, $p < .01$; $\chi^2 = 35.55$, $p < .01$ respectively). TWP clients, as opposed to RTC clients, also tended to be diagnosed with Conduct Disorder ($\chi^2 = 8.41$, $p < .01$). Interestingly, the diagnoses of ADHD and Oppositional Defiant Disorder for TWP adolescents did not show a similar pattern to Conduct Disorder.

Substance(s) abused. TWP clients were about equally likely to have a history of substance abuse (87%) as were RTC clients (86%), but much more likely to use than OP clients (20%, $\chi^2 = 131.67$, $p < .01$). An examination of specific drugs is found in Table 7, where this pattern is consistently manifest. Note that for both history of marijuana use and history of alcohol use about three-fourths of TWP adolescents were users, while only about one-seventh of OP adolescents were. Other drug use was also common in both TWP and RTC adolescents, in particular, cocaine, prescription drugs, and hallucinogenics/depressants.

Medication. Participants' psychotropic medication usage across classes of medication and combinations of medication was quite similar across settings. Data, presented on Table 8, shows various classes and class combinations. TWP, RTC and OP

Table 6
Client Diagnosis by Setting

	Setting			Fisher's Exact *p*	
Diagnosis Present in Clientele	TWP	RTC	OP	TWP v RTC	TWP v OP
Anxiety Disorder				12.42**	15.01**
No	129 (88%)	114 (72%)	108 (70%)		
Yes	17 (12%)	44 (28%)	46 (30%)		
Mood Disorder				58.27**	35.55**
No	73 (50%)	16 (10%)	27 (18%)		
Yes	73 (50%)	142 (90%)	127 (82%)		
Bipolar Disorder				6.74**	.69
No	142 (97%)	142 (90%)	147 (96%)		
Yes	4 (3%)	16 (10%)	7(4%)		
Conduct Disorder				8.41**	3.05
No	136 (93%)	157 (99%)	150 (97%)		
Yes	10 (7%)	1 (1%)	4 (3%)		
ADHD				28.02**	1.44
No	123 (84%)	89 (56%)	137 (89%)		
Yes	23 (16%)	69 (44%)	17 (11%)		
Oppositional Defiant Disorder				5.35*	65.00**
No	65 (45%)	50 (32%)	136 (88%)		
Yes	81 (55%)	108 (68%)	18 (12%)		
Learning Disorder				.64	7.56**
No	139 (95%)	147 (93%)	154(100%)		
Yes	7 (5%)	11 (7%)	0 (0%)		
Eating Disorder				11.24**	3.20
No	143 (98%)	139 (88%)	154 (100%)		
Yes	3 (2%)	19 (12%)	0 (0%)		

* $p < .05$, ** $p < .01$

Table 7
Client Drug Use by Setting

	Setting			Fisher's Exact *p*	
Substance(s) Abused	TWP	RTC	OP	TWP v RTC	TWP v OP
Cannabis				.64	116.43**
No	34 (23%)	42 (27%)	121 (86%)		
Yes	116 (77%)	116 (73%)	20 (14%)		
Alcohol				.05	139.49**
No	27 (18%)	30 (19%)	123 (87%)		
Yes	123 (82%)	128 (81%)	18 (13%)		
Amphetamine				.04	14.55**
No	128 (85%)	136 (86%)	138 (98%)		
Yes	22 (15%)	22 (14%)	3 (2%)		
Cocaine				.00	42.12**
No	102 (68%)	107 (68%)	137 (97%)		
Yes	48 (32%)	51 (32%)	4 (3%)		
MDMA				2.31	12.07**
No	135 (90%)	133 (84%)	140 (99%)		
Yes	15 (10%)	25 (16%)	1 (1%)		
Hallucinogens or Depressants				5.97*	24.00**
No	115 (77%)	101 (64%)	136 (97%)		
Yes	35 (23%)	57 (36%)	5 (3%)		
Other Stimulants				4.58*	9.62**
No	133 (89%)	126 (80%)	138 (98%)		
Yes	17 (11%)	32 (20%)	3 (2%)		
Inhalants				3.98	1.41
No	143 (95%)	141 (89%)	138 (98%)		
Yes	7 (5%)	17 (11%)	3 (2%)		
Prescription Medications				5.41*	22.42**
No	109 (73%)	95 (60%)	132 (94%)		
Yes	41 (27%)	63 (40%)	9 (6%)		
Mean Number of Substances Abused[a]	M= 2.81	M= 3.23	M= .47	1.75	-12.69*

* $p < .05$, ** $p < .01$
[a] The statistical test for Mean Number of Substances Abused is an independent groups *t*-test.

Table 8
Client Psychotropic Medications by Setting

	Setting			Fisher's Exact *p*	
Medication(s)	TWP	RTC	OP	TWP v RTC	TWP v OP
Antidepressant Only				2.19	2.22
No	134 (89%)	132 (84%)	126 (83%)		
Yes	16 (11%)	26 (16%)	25 (17%)		
Stimulant Only				.41	.54
No	143 (95%)	148 (94%)	141 (93%)		
Yes	7 (5%)	10 (6%)	10 (7%)		
Antidepressant and Antipsychotic				3.32	.36
No	143 (95%)	142 (90%)	143 (95%)		
Yes	7 (5%)	16 (10%)	7 (5%)		
Antidepressant and Mood Stabilizer				.48	1.05
No	144 (96%)	149 (94%)	148 (98%)		
Yes	6 (4%)	9 (6%)	3 (2%)		
Antipsychotic and Mood Stabilizer				.05	5.12*
No	145 (97%)	152 (96%)	151 (100%)		
Yes	5 (3%)	6 (4%)	0 (0%)		
Antidepressant, Stimulant & Antipsychotic				.05	2.75
No	145 (97%)	152 (96%)	150 (99%)		
Yes	5 (3%)	6 (4%)	1 (1%)		
Antidepressant, Antipsychotic & Mood Stabilizer				2.08	1.08
No	140 (93%)	140 (89%)	145 (96%)		
Yes	10 (7%)	18 (11%)	6 (4%)		

* $p < .05$, ** $p < .01$

adolescents tended to be prescribed similar combinations of medication except for the combination of an Antipsychotic and Mood Stabilizer. TWP clients were more likely to be prescribed such a combination as opposed to OP clients ($\chi^2 = 5.12$, $p < .05$).

Aggression/Offense history. Table 9 details aggressive and threatening acts history and offense history by setting. Note that TWP admits tend toward more aggressive and threatening acts on a minimal level (26%), and yet fall below RTC admits in overall levels of aggressive and threatening acts ($\chi^2 = 12.85$, $p < .01$). Note also that TWP admits have more legal difficulties yet their difficulties do not translate into court-ordered treatment.

Family dynamics. As shown in Table 10, TWP adolescents tend to experience more problematic family dynamics than both RTC and OP adolescents. Across each variable (parent marital status, communication, adaptability, and time with family), TWP admits were more likely than RTC ($\chi^2 = 15.00$, $p < .01$; $\chi^2 = 29.77$, $p < .01$; $\chi^2 = 84.97$, $p < .01$; $\chi^2 = 10.78$, $p < .01$) and OP ($\chi^2 = 12.40$, $p < .01$; $\chi^2 = 39.22$, $p < .01$; $\chi^2 = 64.98$, $p < .01$; $\chi^2 = 43.26$, $p < .01$) admits to be on the distressing or unfavorable end of the spectrums which represent family dynamics.

Gender in wilderness. Gender differences of those admitted to TWPs are shown in Table 11. Note the quintessential gender differences where females were more likely to self-mutilate and males were more likely to present with an externalizing disorder ($\chi^2 = 26.92$, $p < .01$; $\chi^2 = 6.19$, $p < .01$ respectively). Note also that males were less likely than females to attend outpatient therapy ($\chi^2 = 11.99$, $p < .01$) and were less likely to be placed in inpatient treatment one or more times ($\chi^2 = 6.91$, $p < .05$).

Table 9
Client Aggression/Offense History by Setting

	Setting			χ^2	
Client Variable	TWP	RTC	OP	TWP v RTC	TWP v OP
Aggressive/ Threatening Acts				12.85**	6.36
None	70 (47%)	71 (45%)	90 (61%)		
Minimal	39 (26%)	20 (13%)	27 (18%)		
Moderate	26 (17%)	37 (23%)	19 (13%)		
Severe	15 (10%)	30 (19%)	11 (8%)		
Arrests				5.19	41.81**
None	91 (61%)	115 (73%)	136 (93%)		
One	32 (21%)	22 (14%)	6 (4%)		
More than One	27 (18%)	21 (13%)	5 (3%)		
Court Dates				5.87*	16.30**
None	94 (63%)	116 (73%)	122 (82%)		
One	23 (15%)	23 (15%)	15 (10%)		
More than One	33 (22%)	19 (12%)	11 (8%)		
Court Ordered to Treatment [b]				1.20	3.37
No	144 (96%)	155 (98%)	137 (91%)		
Yes	6 (4%)	3 (2%)	14 (9%)		

* $p < .05$, ** $p < .01$

[b] p values are for Fisher's Exact Test for 2 x 2 tables.

Table 10
Family Dynamics by Setting

	Setting			χ^2	
Family Dynamics	TWP	RTC	OP	TWP v RTC	TWP v OP
Parent Marital Status				15.00**	12.40**
Married	76 (51%)	111 (70%)	103 (68%)		
At Least One Divorce	65 (44%)	46 (29%)	47 (31%)		
Never Married	8 (5%)	1 (1%)	1 (1%)		
Family Communication Style				29.77**	39.22**
Good	11 (8%)	27 (17%)	51 (37%)		
Fair	83 (56%)	114 (72%)	63 (46%)		
Poor	53 (36%)	17 (11%)	24 (17%)		
Family Adaptability				84.97**	64.98**
Good	23 (16%)	105 (66%)	86 (62%)		
Fair	91 (62%)	47 (30%)	41 (30%)		
Poor	33 (22%)	6 (4%)	12 (8%)		
Time With Family				10.78**	43.26**
Extensive	5 (3%)	2 (1%)	19 (14%)		
Moderate	66 (45%)	92 (59%)	94 (68%)		
Little	67 (45%)	62 (39%)	23 (17%)		
None	10 (7%)	2 (1%)	1 (1%)		

* $p < .05$, ** $p < .01$

[b] p values are for Fisher's Exact Test for 2 x 2 tables.

Table 11
Wilderness Treatment Variables by Gender

Variable of Interest	Gender		
	Male	Female	χ^2
Aggressive/Threatening Acts			2.86
None	37 (42%)	33 (54%)	
Minimal	27 (30%)	12 (20%)	
Moderate	16 (18%)	10 (16%)	
Significant	9 (10%)	6 (10%)	
Self- Mutilation			26.92**
None	76 (85%)	33 (54%)	
Minimal	8 (9%)	5 (8%)	
Moderate	5 (6%)	13 (21%)	
Severe	0 (0%)	10 (17%)	
Primary Disorder			6.19*
Internalizing	10 (11%)	6 (10%)	
Externalizing	53 (61%)	24 (42%)	
Mixed	25 (28%)	28 (48%)	
Substance Use [b]			.18
No	11 (12%)	9 (15%)	
Yes	78 (88%)	52 (85%)	
Inpatient Treatment			6.91*
None	52 (58%)	31 (50%)	
Once	29 (33%)	15 (25%)	
More Than Once	8 (9%)	15 (25%)	
Outpatient Treatment			11.99**
None	18 (20%)	3 (5%)	
Three or Fewer Session	4 (5%)	0 (0%)	
Intermittent Beyond Three Sessions	21 (24%)	12 (20%)	
Intense Beyond Three Session	46 (51%)	45 (75%)	

* $p < .05$, ** $p < .01$

[b] p values are for Fisher's Exact Test for 2 x 2 tables.

Clinical significance. Variables of statistical significance were further analyzed for clinical significance: 33 variables for TWP vs. OP; 29 variables for TWP vs. RTC; 4 variables related to gender differences within TWPs. Although many variables in the analysis between settings showed statistical significance, only certain variables showed a moderate to large effect size (Cramer's $V \geq .3$) and a statistical difference across both setting comparisons (TWP vs. OP and TWP vs. RTC). These variables are: the nature of current primary disorder; presence of a mood disorder; attendance at outpatient treatment; admittance to inpatient treatment; family communication; and family adaptability.

TWP vs. OP. With particular focus on the comparison between TWP and OP, analysis showed that eleven other variables resulted in moderate to large effect size (Suspension(s); Runaway(s); Sexual Activity; Substance Use; Cannabis Use; Alcohol Use; Cocaine Use; Number of Illicit/Illegal Substances Used; Diagnostic Severity; Arrest(s); and Time with Family). The effect size range for analysis between TWP and OP statistically significant variables was Cramer's $V = .131$ (Antipsychotic and Mood Stabilizer Medication) – .670 (Nature of Current Primary Disorder) with the mean effect size across the seventeen total variables being .335.

TWP vs. RTC. Three additional variables resulted in moderate to large effect size (Suicidal Ideation; Self Mutilation; and Medication for Psychiatric Symptoms) in the comparison between TWP and RTC. The range of effect size for statistically significant variables in the comparison between TWP and RTC was Cramer's $V = .122$ (Other Stimulants Abuse) – .727 (Inpatient Treatment) with the mean across the nine total variables being .268.

TWP gender. With TWP gender analysis, one variable, self mutilation, resulted in a moderate to large effect size. Across the four statistically significant variables the range of effect size was Cramer's V = .206 (Nature of Current Primary Disorder) – .424 (Self Mutilation) with the mean of the four variables being .282.

DISCUSSION

Results from this archival analysis indicate there are a variety of characteristics that identify those adolescents admitted to wilderness therapy from adolescents who access more traditional treatment settings. Significant differences were found between TWP clients and residential/outpatient clients among common demographics (e.g. age; adoptive status), school related behavioral problems, nature and type of primary diagnoses, treatment history (psychiatric and psychological), psychosocial history, legal issues, substance use, and family dynamics. Of particular note are the indices for which the differences are so great as to yield only modest overlap between TWP admits and the other groups, and calculated effect sizes were in the medium to large range (Cramer's $V \geq 0.3$); perhaps these client features can be viewed as distinct identifiers of TWP admits when compared to both RTC and OP admits. Indices which met these criteria include the nature of current primary disorder, presence of a mood disorder, level of attendance at outpatient treatment and admittance to inpatient treatment, family communication style, and family adaptability.

TWP vs. OP. Whereas the indices mentioned above may delineate TWP admits from more traditional treatment setting admits, additional indices appeared to further clarify characterization aspects of TWP admits from OP admits. When statistical significance and clinical significance (Cramer's $V \geq 0.3$) were considered, the following indices emerged as characteristics which meaningfully distinguish between OP and TWP admits: suspension(s), run away(s), sexual activity, substance use (particularly cannabis, alcohol, and cocaine), diagnostic severity, arrests, and time with family. Clinical significance for these indices showed as more specifically related to TWP vs. OP admits

as opposed to TWP vs. RTC admits. Similar to the client features noted above, these more varied indices could be considered particular characterization indicators of TWP admits when compared to those clients in outpatient treatment.

TWP vs. RTC. Certain indices emerged as specific identifiers between TWP and RTC with the focus on statistical significance and clinical significance (Cramer's $V \geq$ 0.3). These indices include: suicidal ideation, self mutilation, and medication(s) for psychiatric symptomatology. Naturally, due to the varied severity of the clientele within RTCs, admits to RTCs tend to present as more severe on each of these indices. Differences in severity with indices may be a direct result of the admissions process for TWPs rather than other factors. Clients who are admitted to wilderness treatment tend to be astutely screened where severity of certain issues results in denied placement in a TWP. Even so, where certain client features may more specifically identify TWP admits from OP admits, this constellation of indices may be considered characterization indicators in differentiating TWP admits from RTC admits.

Referral pathways. Based on this study, TWP admits present as a particular subset of the adolescent treatment population. Differences support conclusions that, on average, TWP clients tend to (a) externalize or act out to a higher degree (legal issues/academic problems/diagnoses), (b) present with an elevated level of clinical symptomatology, (c) access outpatient and inpatient treatment less regularly, and (d) experience more disruption in family dynamics. This relatively specific clinical constellation is a proportionally small piece within what the wilderness programs themselves identify that wilderness treatment can address (varied diagnoses, sundry problems, and omnibus issues). Although the admittance pathway into a TWP may be

diverse, it appears that a particular type of client is more likely to end up in this type of treatment setting. This admittance pathway obviously starts with the parents and can filter directly to the wilderness program admissions team. Yet referrals for TWPs often come from educational consultants, probation or diversion officers, home therapists/psychiatrists, family physicians, boarding schools, residential treatment programs, hospital settings, etc. So although the TWPs indicate that they are a broad-based treatment setting, when considering the admittance pathways, there appears to be a tendency to assume that wilderness treatment is particularly well-suited for adolescents with the attributes highlighted above. Although unclear from these data, that assumption may possibly be held by the public, the referral system, and even the wilderness program admissions teams. Of course, there are many TWP clients who do not fit this characterization, but the client characteristics are sufficiently different from other settings that there appears to be a strong bias as to what characterizes the adolescent who is directed into wilderness treatment.

Family dynamics. An interesting finding of this study is that the family dynamics of TWP clients differ from clients at other settings. Differences in family communication, family adaptability, and time with family may arise, in part, from the more complete family information contained in the client file records in the wilderness programs. TWPs tend to place some level of focus on assessing the family functioning and as such, file information on families tended to be more plentiful at these sites. Differences in family dynamics may also contribute to referral patterns. Psychological treatment for these TWP admissions' prior to wilderness appeared more sporadic. This noted lack of regular sustained treatment may be related to the level of family disruption.

For example, wilderness treatment is typically viewed as a rather intense sustained intervention, and admission to such an intense treatment setting may commonly be instigated by a parental reaction to blatant adolescent malfeasance or serious disputations. These parents may oftentimes have trouble with boundaries and poor problem-solving dynamics and, as such, may let issues fester with insufficient action until parental tolerance is piqued. Similarly, the frequency of divorce is higher in the TWP admits and this factor of divorce may play a role in the externalization and clinical level of symptomatology as well as the irregular access to treatment.

Data for this study illuminated additional findings worthy of note. Adopted adolescents made up a considerably and significantly higher percentage of admits in intensive treatment settings (TWP and residential) than in outpatient therapy. Clearly, adopted children face particular issues. What this data may mean is that the particular issues (attachment, identity, possible trauma, etc.) adopted children face could exacerbate symptomatology and more readily require serious intervention. Similarly, adoptive parents and the larger adoption system may be less prepared for the level of issues faced by these children. Moreover, those who have adopted children may financially be in a better situation to pay for such treatment. Research on this may be beneficial, as would research on how wilderness treatment addresses the unique issues faced by the adoptive child and family. For example, beneficial elements of wilderness treatment for the adopted child may include the isolated environment coupled with the person-building metaphor of the mythological hero's quest.

Age and gender differences. The age difference between TWP and RTC is an unexpected finding of note. Even though these treatment settings admit adolescents in

the same age range, admits for TWPs were significantly older than those in RTC. As noted earlier, family disruption and the lack of sustained treatment may play considerable roles in this finding. Moreover, externalization of problems could play a significant role, especially with the differing common admission diagnoses between wilderness (Oppositional Defiant Disorder and Cannabis Dependency) and residential (Mood Disorder NOS and Major Depressive Disorder Recurrent, Moderate). Another factor with the age difference may be that parents, educational consultants, and other referral agencies are less likely to send the youngest of the age range to the "harsh" environment of the wilderness. Literature on the effectiveness of wilderness treatment on different age ranges would appear helpful.

Another intriguing finding of note involves gender differences within TWPs. Outside of treatment populations, males would expectedly tend toward more aggressive or threatening acts than females. Females and males in this study were strikingly similar in the ratings for aggressive and threatening acts. Those females who are admitted to TWPs appear to be a more severely hostile facet of the female adolescent treatment population. This aspect of increased aggressiveness or hostility is somewhat similar in the adjudicated female population. Likely related to this aggressive hostility element, females in TWPs were shown to have attended treatment in both outpatient and inpatient settings significantly more than their male counterparts. This may be tied to the concept that when a female externalizes, her culturally abnormal and symptomatic behavior clearly marks her for treatment.

Substance abuse. Substance abuse differences are worthy of note. Noted substance abuse differences between outpatient and secure treatment settings for this

study may be inflated. The outpatient data collection site catchment area was a suburban private-religion-based-university town in the Mountain-West. The secure treatment setting sites had a national catchment area. Such a catchment area difference clearly diminishes results on this facet. Furthermore, there is a possibility that the adolescent outpatient report of drug abuse was less forthright than the report of adolescents in secure treatment settings. Ideally, when adolescents attend outpatient treatment they could speak with candor about what substance abuse they may have engaged in. Realistically, they may significantly filter their answers. Those adolescents in secure settings may have equally filtered their answers, and yet when an adolescent enters secure treatment there would appear to be less incentive to significantly filter. As it is, those adolescents in secure treatment settings showed very similar abuse patterns in the illegal and controlled substances they chose to ingest.

Medication. Psychotropic medication use differences, or the lack thereof, are also worthy of note. Although there were significant differences across settings with the data point focused on past treatment with medication for psychiatric symptoms, setting comparisons for specific classes of current medications and medication combinations were incredibly similar, even though they are targeting populations with different presenting problems. Percentage-wise, the specific classes and class combinations for these medications accounted for a relatively small segment of those admitted within each setting (17% at the most). In each setting there are, understandably, outliers to the norm who may require the exceptional treatment with varied combinations of medication. Yet, even with the fraction of thus medicated adolescents in each setting the similarities were unexpected, especially so with the antipsychotic, antidepressant, and mood stabilizer

combination. There were similar percentages of outpatient admits, wilderness admits, and residential admits who were prescribed such a combination. Data such as this, particularly considering the outpatient admits, may suggest a penchant within the medical field to readily dispense medication, even aggressive, powerful combinations of medication in hopes to provide the "fix-factor" for the problematic issues.

Therapeutic Targeting of Client Need

For clinicians who practice in wilderness therapy, from this study they could find a valuable foundation from which to base interventions. Wilderness clinicians may, with this information, seek out group and individual treatment methods based on characterization points to enhance the effectiveness of their approach. Moreover, wilderness clinicians may hone in on a few more common characterization pieces and develop a treatment specialty centered on clients who exhibit those characterization pieces. With the identification of pertinent characterization domains the TWP clinician can more readily evaluate and interpret necessary case related aspects. Enhanced clinical case conceptualization comes with such clinically rich knowledge about who is served as well as a more clinically savvy, directed, and specified treatment approach. Furthermore, as a means to most effectively meet the client's needs, the behavioral and clinical condition of the clientele can be matched to the capabilities and structure provided by the TWP program. The clinician who seeks employment may ascertain whether he/she can work effectively with the generalized client profile or possibly determine whether he/she may create a niche in said treatment arena. And for the clinician who may have a difficult or at-risk adolescent client who fits the clinical constellation, this information may aid them in a possible referral.

For the educational consultant, this information may provide enhanced clarity regarding a spectrum of various levels of issues matched to the wilderness treatment setting. For example, educational consultants could, after efficacy data has been amassed, begin to create a template with parameters where the client could be evaluated on a "go, no go" basis for the various issues.

For parents who seek treatment for their adolescent children, this information could be empowering. With such a relatively clear picture of the characterized wilderness client, parents may make a more informed decision about treatment utilization for their troubled child. Ultimately, such decisions may be better made based on efficacy data gathered after characterization, but until that need is met in the wilderness program literature, a better understanding of who is typically served could be useful. What appears to currently happen is that parents/caregivers tend to send children to TWPs with externalized difficulties likely under the belief that treatment in the wilderness arena, for whatever reason, may offer an added benefit. Possibly, parents believe that the concentrated treatment opportunity of wilderness suites the clinically elevated, externalizing adolescent who has not, at admission, accessed much therapeutic treatment. Anecdotal evidence suggests that parents and referrers may view the acting out child as needing something dramatic to break through the adolescent's defenses. Parents may believe the wilderness environment offers a break from normalized life while focus remains on outdoor physical activity, supported self reliance, less opportunities for distraction, group therapy and individualized treatment, kinesthetic experiential activities, cognitive/introspective aspects, and appropriate programmatic structure.

For parents who tend to admit their children into wilderness therapy, there appears to be a clear bias against sending children with internalized disorders. Although data shows the presence of internalized disorders in TWP settings, the evident admissions tendency is towards externalized disorders even though TWPs include internalized disorders in the spectrum they claim to treat. A possible piece of the issue may be simply that children who act out exasperate their parents and the greater system (school, community, city) and therefore are sent into treatment away from their parents and the greater system. Another possible piece may be that parents believe the out-of-doors setting is less conducive to treatment for internalization disorders, perhaps because they are reluctant to place the internalizing child into a situation designed to make changes through a dramatic departure from the status quo and with exposure to demanding, sometimes harsh conditions.

Study Limitations

A strength of this study is the collection of similar characterization data points within a similar admission time span from various treatment settings. While this is a strength, as with any research, the study design determines limitations to how the findings may be interpreted. Wilderness programs, for example, tend to be quite diverse in their business model and treatment approach. Some programs are private-pay, as the ones in this study, and do not admit adjudicated adolescents or take third-party-payment reimbursements. Other programs provide services for state agencies (admit adjudicated adolescents) and private pay. And still others may only provide services for adjudicated adolescents. The treatment approach can be mixed gender groups or single gender groups. Certain programs maintain a strict time-based treatment model where those

admitted stay for a set (possibly four weeks) time limit while others tend to be more open ended with length of stay. With hiking, some wilderness programs use peripatetic groups where others maintain centralized base camps. With therapy, clients within a wilderness program group may have one therapist that serves the group or, depending on client progress, certain individuals within a group may have separate therapists. When considering such diversity, the selection of two programs as a representation of wilderness therapy would clearly be a stretch. Moreover, with such diversity there is a likelihood that data from certain other mainstream programs could present differently. For example, other programs may tend to serve a younger clientele and therefore data points may show differently with age, diagnostic presentation, prescribed psychotropic medication, drug abuse, and legal problems. Unfortunately, two additional programs contacted to provide data for this study refused to participate with the statement that their corporation(s) does not support research. As it is, this data generalizes to mainstream, private-pay, treatment focused, open-ended time limit, clinician directed wilderness programs, as opposed to deprivation related, restricted and prohibitive environment-based, boot camp style programs.

Similarly, reliability and validity of some findings may be reduced by the use of diagnostic codes generated from the clinicians for each setting. Rigorous research would suggest a formal diagnostic assessment for identifying individuals with the specified disorder(s) rather than reliance on the therapist's possibly loose diagnostic determination at the program.

Finally, the collection of data allowed a brief snapshot of the clientele for that time period. Reliability and validity may be restricted by the nature of the time-limited

clientele picture. Data collection from various time periods more recent and older may prove more representative.

Future Directions

In considering future directions, other characterization variables of interest could add greater robustness to this data. Two conspicuous characterization variables not added to this study are socio-economic status (SES) and ethnicity. These data provide no links into the anecdotal perception that due to the financial cost of wilderness treatment the vast majority of TWP admits tend to come from middle-to-upper class families. These data similarly provide no perspective into ethnic background. An ethnic dissection of admitees can elucidate the degree of parity between the percentage of varied ethnicities in wilderness treatment and the percentage of varied ethnicities who utilize psychological treatment. Data on ethnicity and SES were unavailable for collection and as such the role of SES and ethnicity remains unclear and merits study.

Related to SES, the admits' home geographical location or home city is another variable of interest that merits study. Aside from the identification of a specific city, suburb, district, or neighborhood, data related to the admit's geographical home can also clarify the percentage of clients coming from varied sections of the country. Similarly, data such as geographical home can clarify the stereotyped "city kid" sent to wilderness to be "straightened out".

Further specifications on diagnostic variables are of interest and merit study. These data identified admittance diagnosis rather than discharge diagnosis. Whereas clinicians occasionally change admittance diagnoses to all the more match the breadth and depth of the client's symptom constellation, and catchall or typical diagnoses may be

more customary with admittance diagnoses, discharge diagnoses as a possible more accurate diagnostic characterization piece merits study.

ADHD specifications also merit study. Although ADHD as a diagnosis appeared in a slightly higher percentage for TWP admits than OP and a considerably lower percentage between TWP admits and RTC, these data did not diagnostically identify between ADHD hyperactive-impulsive, inattentive, or mixed types. ADHD specifications merit study to decipher whether the acting-out features of ADHD (hyperactive-impulsive and mixed ADHD) tend to present more in TWP admitees as opposed the ADHD inattentive type. Anecdotal evidence suggests that those who place adolescents in treatment primarily connect hyperactive-impulsive or mixed ADHD diagnoses with TWP treatment in hopes that open space with structure could prove beneficial.

Another variable of interest would include more specificity within the family setup, such as the number of single-parent homes. TWP admits were significantly more likely than the other setting admits to come from a family beset by divorce or to have parents that never married. Family disruption, or complicated family issues appear to be a marker for TWPs and possibly single-parent homes may show as an additional characterization piece.

Legal troubles appear to be another additive variable of interest for study. TWP admits tended to have more arrests and were significantly more likely than other admits to have one or more court dates. Furthermore, they were more likely to have a diagnosis of Conduct Disorder than admits in residential treatment. This finding is not unexpected given that the greater proportion of admits to TWP were on the externalizing end of the

diagnostic spectrum. Data on the specifics related to legal troubles may prove revelatory. Specifics on arrests and court dates, such as infractions related to substance abuse, vandalism, thievery, curfew, vehicle related violations, truancy, etc. could possibly differentiate TWP admits from other settings.

Efficacy of Wilderness Programs

For the researcher, the next natural step involves the question: does wilderness therapy provide ameliorative therapeutic results for those who present as the typified TWP client? Characterization, as noted earlier, is a fundamental step within the social science knowledge base. With a well defined concept of those admitted to TWPs there is now a heightened opportunity for methodologically rigorous and specialized, pointed analysis within such settings. This step of pertinent characterization domains provides a fluid and substantial link to next-step studies. One such study, based on characterization domains, may involve outcome comparisons between TWP(s) and other treatment programs to evaluate if the typified TWP client exhibits significant therapeutic/clinical gains in wilderness over treatment as usual. Another such study, also based on characterization domains, may assess the higher order, influential factors of change unique to the wilderness experience. With the unique factors of change identified, TWPs that adhere to the factors of change can be all the more differentiated from others that may not be clinically inclined, but focused more on boot-camp style interactions. Further studies may assess the "Type versus Treatment Interaction" as a way to "maximize outcomes from the intervention" (McCord, 1995, p. 59; Russell & Phillips-Miller, 2002, p. 435). Naturally, treatment can be expensive and treatment in a TWP tends to be

exceptionally expensive. More work has to be done to evaluate whether the expense is therapeutically/clinically merited.

In summary, this archival study presents comparative characterization points to differentiate those adolescents admitted to wilderness programs from adolescents admitted to more traditional settings. A variety of factors specifically identify adolescents who are admitted to wilderness treatment, which factors include that they tend to externalize or act out to a higher degree (legal issues/academic problems/diagnoses), tend to present with an elevated level of clinical symptomatology, attend outpatient therapy less often and are less likely to be admitted to residential treatment, and appear to experience more disruption in family dynamics. Given these findings, more pointed research may be the next step to help establish the efficacy of wilderness treatment for the type of adolescent identified by this study. A goal for wilderness therapy would be clear and concrete outcome efficacy established through the foundation of characterization descriptors. Such research would allow greater strides into mainstream treatment and provide more robust standard treatment opportunities. Furthermore, wilderness therapy could possibly flourish to the point where family affluence would be less of a factor for program admission.

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APPENDIX A

Group number	**Subject number**	**Age**: [in years]	**Gender**: [male=1; female=2]
Adopted: [no=0; yes=1]		**Arrests**: [none=0; one=1; more than one=2]	
Court dates: [none=0; one=1; more than one=2]		**Court ordered into treatment**: [no=0; yes=1]	
Suicide attempt: [no=0; yes=1]			
Suicidal ideation: [none:0; previous=1; some current=2; significant current=3]			
Aggressive/threatening acts: [none=0; (1-2 fights; infrequent explosive arguments with threats)=1; moderate (3-5 fights; periodic explosive arguments with threats)=2; severe (5< fights; frequent explosive arguments with threats)=3			
Self mutilation: [none=0; superficial/minimal=1; moderate/confined=2; severe/considerable=3]			
Run away attempts: [none=0; one=1; more than one=2]			
Sexual activity: [none=0; minimal (heavy petting)= 1; moderate (oral, vaginal, anal, intermittently or with less than five separate partners)=2; extensive (frequent, long-term, or with more than five partners)=3]			
Reported physical abuse: [no=0; yes=1]		**Reported sexual abuse**: [no=0; yes=1]	
Current medication(s)			
Primary Disorder: [internalizing=1; externalizing=2; mixed=3]			
Primary diagnosis	**Other diagnoses**		
Diagnosis severity: [minimal=1; moderate=2; acute/severe=3]			
School Failure: [no=0; failed out of one=1; failed out of more than one school=2]			
School expulsion(s): [none=0; one=1; more than one=2]			
School suspension(s): [none=0; one=1; more than one=2]			
Previous outpatient therapy: [none=0; less than three sessions=1; intermittent beyond three sessions=2; intense/sustained beyond three sessions=3]			
Previous inpatient therapy: [none=0; once=1; more than once=2]			
Current or previous medication for psychiatric symptoms: [no=0; yes=1]			
Substance use/abuse: [no=0; yes=1]			
Type of substance: [none=0; Cannabis=1; Alcohol=2; Amphetamine(s)= 3; Cocaine=4; other stimulants=5; depressants=6; inhalants=7; other hallucinogens=8; prescription drugs=9]			
Parental marriage status: [married=1; at least one divorce=2; never married=3]			
Family communication style: [good, normal healthy communication=1; fair, impairment with disordered and disconnected periods=2; poor, inability to form connections, agitated and closed=3]			
Family adaptability: [good, normal flexibility in times of stress= ; fair, impairment, constrained and inaccessible in times of stress=2; poor, serious impairment, rigid and chaotic in times of stress=3]			
Time with family: [extensive=0; moderate=1; little=2; none=3]			

APPENDIX B

Raters are to obtain the specified chart and search through all contents of the chart for related information, reading to the greatest possible degree, every word. Note that if it is not written in the chart, rate as "No" or "None". For the more arbitrary ratings, the following write-up can be a guide:

Current Diagnostic Severity: For mood disorders this will be the last numeral in the diagnostic code. For other disorders look through the chart for informational specifiers related to the diagnosis in order to assess the diagnostic severity. For example, if the diagnosis is ODD and the adolescent argues with parental, school, and legal authority the severity would tend to be severe. If the adolescent argues solely with his/her parents and deliberately annoys others, the severity would tend to be moderate.

Suicidal Ideation: Previous suicidal ideation would be noted in the chart. Some current suicidal ideation may be identified as fleeting thoughts of suicide or thoughts related to how things may be better without the client. Possibly, there is a rating noted in the chart with a 1 – 10 scale of suicidal ideation where 1 means close to none at all, and 10 means a clear plan to suicide. With the scale, anything 5 or lower may be rated as some current. A rating of 6 or higher would merit significant current. If the client came in on suicide watch as noted in the chart or was placed on suicide watch shortly after admission the rating would be significant current.

Self Mutilation: Includes burning, branding, piercing, or cutting on one's own body. If mutilation is noted as present and engaged in 1 – 3 total times it is superficial; 4 – 6 times is moderate; 6< times is severe. Charts may note the many self-inflicted scars on arms, legs, feet, or hands, and progress notes may state self-mutilation as process topics.

Sexual Activity: As noted, minimal = heavy petting, moderate = oral, vaginal, or anal intermittently or with less than five separate partners, and extensive = frequent, long-term, or with more than five partners.

Aggressive/Threatening Acts: As noted, minimal = 1 - 2 fights and maybe infrequent explosive arguments with threats, moderate = 3 - 5 fights and maybe periodic explosive arguments with threats and breaking or vandalizing some property, severe = 5< fights and maybe frequent explosive arguments with threats and breaking or vandalizing considerable property.

Primary Disorder: If the first 2 diagnoses are internalizing then rate it an internalized disorder in the field (1). If the first 2 diagnoses are externalizing then rate it an

externalized disorder in the field (2). If either of first two disorders are internalized and externalized then rate it mixed in the field (3). (including adhd). Learning disorder and sub use/abuse is mixed. Adjustment Disorder is internalizing unless with mixed conduct. PTSD is mixed. Affective disorders (bipolar, dysthymic disorder, major depressive disorder) are internalizing. Conduct disorder and oppositional defiant disorder are externalizing. Anxiety disorders (generalized anxiety disorder, obsessive compulsive disorder, panic attack) are internalizing. Eating disorders are internalizing. Also, look through chart before making this determination for any information that would support the internalized/externalized/mixed rating such as internalizing: few friends, socially awkward, video game addicted; externalizing: readily blames others, aggressive/destructive anger outbursts, vindictiveness; mixed: regularly brooding, deceitful and starts fires, recurrent suicidal ideation.

Family Communication Style: Information to determine these ratings can be identified through diagnosis, presenting problems, strengths and weaknesses identified by caregivers, and any further file information that characterized the family communication style (e.g. psycho-social history, pattern of abuse). As noted, good = normal healthy communication between family members where family is intact or single parent maintains connected relationship with adolescent (diagnosis of ODD would mean either fair or poor communication style). Fair = impairment with disordered and disconnected periods, such as if one parent is hardly in the picture or there are regular arguments/withdrawn periods/ disinterest with one parent or multiple family members. Poor = inability to form connections, agitated and closed where both parents show considerable communication problems and/many family members show considerable communication problems with aggression, constant arguments/frequently withdrawn/apathy (Parent-Child Relational Problem diagnosis).

Family Adaptability: Information to determine these ratings can be identified through diagnosis, presenting problems, strengths and weaknesses identified by caregivers, and any further file information that characterized the family adaptability (e.g. psycho-social history, pattern of abuse). As noted, good = normal flexibility in times of stress such as death (culturally specific normal grieving pattern), family move (higher level of support and within family adjustments), academic problems (seeking out-of-family help or increase within-family help), relationship difficulties (adolescent angst and appropriate boundaries), job loss, etc. Fair = impairment, constrained and inaccessible in times of stress, with problems building to considerable flare ups with runaway attempts, regular school difficulties, some self-mutilation or other mental health issues without treatment attempts, etc. Poor = serious impairment, rigid and chaotic in times of stress where little to no attempt at support or treatment for mental health, academic, relationship issues.

Time with Family: Information to determine these ratings can be identified through diagnosis, presenting problems, strengths and weaknesses identified by caregivers, and any further file information that characterized the time with family (e.g. psycho-social

history, pattern of abuse). None = adolescent may have residence at parental home yet does not stay at home, or stays at home and has no interaction with parents/family. Adolescent may stay in room and primarily leave to visit bathroom eat, or attend school/work. (If adolescent is in residential care and has weekly contact with parents/family the rating would at least be “little”). Little = Adolescent stays mostly at friends/extended family members' and speaks/interacts with parents/family members mostly on a weekly basis. There may be isolative, room-based adolescents who interact with parents even though they are arguing on a daily/weekly basis. Moderate = More than weekly interaction with parents/family and possibly shortened daily interaction. Extensive = Highly interactive with parents/family where considerable periods of time are spent within the family unit.